ON THE PLACE OF THE PROGRESSIVE PALATALIZATION OF VELARS IN THE RELATIVE CHRONOLOGY OF SLAVIC

by

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FOREWORD

This study was originally undertaken in 1965 as a thesis for the degree of Master of Arts submitted to the Department of Slavic Languages and Literatures of The Ohio State University. In its present form it represents a somewhat revised version of that thesis.

I would like to take this opportunity to express my great indebtedness to Professor Ilse Lehiste, who served as my thesis advisor, and without whose continued guidance, assistance and encouragement this study could not have been written.

I am grateful also to Professors M. Halle and E. Stankiewicz for making available to me certain unpublished materials used herein, and to Professors P. Ivić and F. V. Mareš for their helpful information and criticisms of the manuscript.

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Cambridge, Massachusetts, 1968 Robert Channon

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I

ON DATING THE PALATALIZATIONS

It has long been recognized that the Proto-Slavic velars (_k_, _g_, _x_) underwent palatalization in four types of environment:

1. before _j_,
2. before an original front vowel,
3. before a 'new' front vowel (the result of monophthongization of the diphthong _oi̯_ [<_oi̯_, _ai̯_]),
4. in a rather complicated environment involving a preceding _i_ and an optional intervening _r_ or _n_.[1]

The palatalizations of velars in the first two of these environments are frequently grouped together, since their results were the same.

The palatalization before an original front vowel is known as the 'first' palatalization. This palatalization produced _č_, _ž_, _š_ from _k_, _g_, _x_ (_*kьto>čьto_ 'what',_*gena>žena_ 'woman', _*xьdъ>šьdъ_ 'having gone'; also, _*otьk-jь>otьčь_ 'father's (poss. adj.)', _*mǫg-jos>mǫžь_ 'man', _*dux-ja>duša_ 'soul'.)

The palatalization which took place before a 'new' front vowel derived from a diphthong produced _c_, (_d_)_z_, _s_/_š_ (depending on the dialect) and is commonly referred to as the 'second' palatalization. Examples of this palatalization are _*věk-oi̯>věcě_ 'eyelid (loc. sg.)', _*slug-oi̯>sluzě_ 'servant (dat.-loc. sg.)', _*grěx-oi̯>grěsě_ 'sin (loc. sg.)'. In some dialects this palatalization also operated across an intervening _v_ ([w]); thus we have in Russian _*kwoi̯tъ>*kwětъ>цвѣтъ>цвет_ 'flower', _*gwoi̯zda>*gwězda>_ (_д_)_звѣзда>звезда_ 'star', but Polish _*kwoi̯tъ>*kwětъ>kwiat_, _*gwoi̯zda>*gwězda>gwiazda_.

The palatalization which took place after _i_ is frequently called the 'third' palatalization; in general, it produced the same results as the 'second' palatalization: _*otьk-os>*otьcъ>otьcь_ 'father', PGmc. _*kuningaz>*kъnędzъ>kъnę_(_d_)_zь_ 'prince', _*vix-o->*vьsъ>vьsь_ or _*vix-o->*vьšъ>vьšь_ 'all', cf. O.C.S. _vьsь_, R. _весь_, Cz. _všechen_, Pol. _wszystek_.

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[1] Reconstructed phonological units throughout this study will not be marked with an asterisk. Reconstructed or unattested words, stems and affixes, however, will be so marked.

It can easily be shown that the 'first' palatalization preceded the 'second'. If the 'second' palatalization had come first, then we would expect to find _c_, (_d_)_z_, _s/š_ as the reflexes of all velars before _ě_ and _i_, and perhaps before any front vowel. This, however, is not the case, and the existence of such forms as _družina_ (<_*drug-ina_) 'retinue', as opposed to (nom. pl.) _druzi_ (<_*drug-i_<_*drug-oi̯_) 'friends', shows clearly that the new _i_ (or _ě_) was still a diphthong at the time of the palatalization of velars by original front vowels.

Since the attested reflexes of the 'second' and 'third' palatalizations are the same in Slavic languages, scholars have tended to consider them together, often as two phases of the same development,[2] and have for this reason tended to consider the 'third' palatalization, also, as having occurred after the 'first'. As evidence, reference is usually made to such forms as nom. sg. _otьcь_ (<_*otьk-os_), but voc. sg. _otьče_ (<_*otьk-e_), and similar cases. Examples of this sort are thought to be parallel to those of the type _druzi_ : _družina_.[3]

These arguments have long been accepted as defining the chronological relation of the 'second' and 'third' palatalizations to the 'first'. Establishing the chronological relation between the 'second' and 'third' palatalizations is, however, more difficult. Some scholars believe that the 'second' preceded the 'third', and some believe the opposite.[4] It is with this question of the chronology of the so-called 'third' palatalization and with various scholars' answers to the problem that the present work is concerned.

To avoid the confusion connected with the existing numbering system, some scholars have chosen to refer to the 'second' palatalization as the 'second regressive' or 'diphthong' palatalization, and to the 'third' palatalization as the 'progressive' or 'Baudouin de Courtenay' palatalization (since it was _Baudouin de Courtenay_ who first described this palatalization).[5]

Several of these terms will be used here, with the meanings outlined above. It should be remembered, though, that in the writings of some scholars, the terms 'second' and 'third' are used with a meaning precisely opposite to the one presented here. It may not be inappropriate to suggest that the 'first', 'second', and 'third' palatalizations be redesignated as the 'first regressive', 'second regressive', and 'progressive' palatalizations, respectively. These terms have the advantage of being descriptive, rather than simply numerical, but yet retain important elements of the most common current usage ('first' and 'second'), so that the connection between the traditional nomenclature and the terms suggested above remains apparent.

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[2] For details, see Chapter III.

[3] This point is discussed further in Chapter IV.

[4] For details, see Chapter III.

[5] J. Baudouin de Courtenay, "Einiges über Palatalisierung (Palatalisation) und Entpalatalisierung (Dispalatalisation)", _IF_, IV (1894), 45-57. The "Palatalisierung" part of this article, in which Baudouin de Courtenay discusses the 'third' palatalization, is reprinted as an appendix to the present work.

II

DESCRIPTION OF THE PALATALIZATIONS

At some point in the Common Slavic period there developed a strong tendency towards assimilation of the place of articulation of successive segmental phonemes in a syllable. This tendency led to the modification of velar consonants when they preceded front vowels. The results of this modification were the changes that were referred to above as the 'first' palatalization.

In addition to this assimilatory tendency, though, there was another major tendency exerting its influence on Common Slavic phonology. This second phenomenon is generally referred to as the 'Law of Increasing Sonority' or the 'Law of Open Syllables'. Many different sound changes took place, as a result of which only open syllables occurred in Slavic; the change which concerns us here is the modification which eliminated the diphthongs ending in a semivowel, and in particular, those ending in *-i̯*. These diphthongs were monophthongized according to the following pattern: *ou̯/au̯>u*; *eu̯>'u*; *oi̯/ai̯>ě, i*;[1] *ei̯>i*. There were now in Common Slavic 'new' front vowels, derived from the former diphthongs *ai̯*, *oi̯*,[2] and these could stand after *k*, *g*, *x*, since they had previously had back vowels as first components. It was under these circumstances that the 'second' palatalization took place.

The 'second' palatalization accounts for many instances of *c*, (*d*)*z*, *s/š* which, through the comparative method, can be traced back to *k*, *g*, *x*, respectively; but there are some instances of *c*, (*d*)*z*, *s/š<k*, *g*, *x* which cannot be ascribed to this palatalization, since they were originally followed neither by front vowels nor by the diphthongs *oi̯/ai̯* which developed into *ě*, *i*. In these cases, though, it can be shown that the velars in question were PRECEDED by front vowels.

The front vowels could be of three types: 1. *ĭ*; 2. *ę<in*; 3. *r̥'<ir*. (In the latter two types we see the result of the elimination of certain Indo-European diphthongs which

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[1] This is the traditional view of this sound change. The reflex(es) of the monophthongization of *oi̯/ai̯* are discussed in Chapter IV.

[2] Those front vowels (*i*) derived from the monophthongization of original *ei̯* were not 'new' front vowels; they had been front vowels even in the diphthong stage, and velars which stood before original *ei̯* underwent 'first' palatalization. Only secondary *ei̯*, derived ultimately from *oi̯/ai̯*, could follow *k*, *g*, *x* after the time of the 'first' palatalization.

had *i* as their syllabic elements.) These cases provide the major condition for the 'third' palatalization.[3]

It is clear, then, that the palatalization caused by a preceding front vowel must be considered as a phenomenon apart from that caused by a following front vowel newly-derived from the former diphthongs *oi̯*, *ai̯*, even though the results of the two palatalizations were the same.[4]

All three of the palatalizations belong to the Common Slavic period, that is, roughly the time between the opening of syllables through the development of the Law of Increasing Sonority and the subsequent closing of syllables through the loss of weak jers. Contained within the Common Slavic period was the period of *syllabic synharmony*, in which the syllable was apparently a basic structural unit of the language. During this period, syllables as a whole were either 'front' or 'back' (in terms of distinctive features, sharped or plain). Most consonants developed 'semi-palatalized' (sharped) allophones produced at the same point of articulation when they stood before front vowels, but the velars developed palatal allophones which were produced at a different point of articulation (that is, they underwent the change [+grave]→[−grave] in addition to the change [−sharp]→[+sharp]). It should be noted, in this connection, that these palatal consonants cannot yet be considered as distinctive units of the language, since they are in complementary distribution with the velars and their occurrence is conditioned by the following vowel.

The operation of the 'first' palatalization marks the beginning of the period of syllabic synharmony. The 'second' palatalization must also belong to this period, since it has the effect of preserving the front-back opposition on the syllabic level. In addition, the 'third' palatalization must have occurred before the end of this period, since a back vowel following a product of the 'third' palatalization was changed into a front vowel in the same way that such back vowels were changed to front vowels when they followed *j*.

The breaking of syllabic synharmony came about with the change of *ě* to *a* after palatal consonants and *j*. All the palatalizations in question here, therefore, must have occurred before the time of this change of *ě* to *a*. With the change of *ě* to *a*, the palatal consonants became distinctive, since they could now stand before the back vowel *a*, and thus -*Ča*- could contrast with -*Ka*-.

It is much more difficult, however, to define the chronological relation of the 'third' palatalization to the other two simply from internal evidence, since there is no common environment in which they operated.

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[3] While it is true that all examples of the 'third' palatalization occur under these conditions, it is not necessarily true that this palatalization always occurs when the conditions are met. The environment following the velar must also be taken into consideration, and will be dealt with later.

[4] Some scholars, notably Belić and Bernštejn, believe that the results of these two palatalizations were not identical. (See discussion of their views in Chapter III.) The fact remains, though, that in all attested Slavic languages, with the exception of certain Central Slovak dialects (see below), the results of these two palatalizations are identical, and an assumption that this was not always the case yields no additional possibilities for a discussion of the problem of chronology, since the environments of these two palatalizations are mutually exclusive.

Many scholars, in describing Slavic historical phonology, have ignored this problem and have simply stated the facts of the palatalizations, without attempting to relate them to each other. Others, however, have devoted great attention to the problem, and have attempted to solve it in various ways. Their treatments of the problem will be discussed in Chapter III.

Before proceeding further, though, let us summarize the results of the different palatalizations.

For the 'first' palatalization, *k*, *g*, *x*>*č*, *dž*, *š* everywhere; *dž* was later simplified to *ž* in all areas; cf. R. *четыре* 'four', *жёлтый* 'yellow', *уши* 'ears'; SCr. *че̏тири*, *жу̑т*, *у̏ши*; Blg. *четири*, *жълт*, *уши*; Cz. *čtyři*, *žlutý*, *uši*; Pol. *cztery*, *żółty*, *uszy*.

The results of the palatalization of velars before *j* are in all cases identical with the results of the 'first' palatalization; cf. R. *плач* 'weeping, lamentation', *муж* 'husband, man', *душа* 'soul'; SCr. *пла̏ч*, *му̑ж*, *ду́ша*; Blg. *плач*, *мъж*, *душа*; Cz. *pláč*, *muž*, *duše*; Pol. *płacz*, *mąż*, *dusza*.

For the palatalization by a following 'new' front vowel ('second' palatalization), *k*, *g*, *x*>*c*, *dz*, *s* in East and South Slavic, and >*c*, *dz*, *š* in West Slavic; *dz*>*z*, except in Lekhitic. In some Central Slovak dialects the reflex of the 'second' palatalization of *x* is *s*.[5] These dialects, then, have reflexes for the 'second' palatalization like those of South and East Slavic, rather than West Slavic; cf. O.R. *цѣна* 'price', *нозѣ* 'foot (loc.sg.)', *чеси* 'Czechs (nom.pl.)'; SCr. *це́на*, *но̏зи*, *Че̏си*; Blg. *цена*, *нозе* (pl.), *чеси*; Cz. *cena*, *noze*, *Češi*; but Pol. *cena*, *nodze*, *Czeszy*;[6] Cent.Slk. *cena*, *noze*, *Česi*.

The results of palatalization by a preceding front vowel ('third' palatalization) are in all cases the same as the results of the 'second' palatalization, except for the Central Slovak dialects cited above, where *x*>*š*, in accord with the West Slavic languages; cf. R. *овца* 'sheep', *князь* 'prince', *всё* 'all, everything'; SCr. *о́вца*, *кне̑з*, *све̏*; Blg. *овца*, *княз*, *все*; Cz. *ovce*, *kněz* ('priest'), *vše*; but Pol. *owca*, *ksiądz* ('priest'), *wszystko*; Cent.Slk. *ovca*, *kňaz* ('priest'), *všetko*.

These reflexes are summarized in Table 1.

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[5] This feature of these dialects is discussed, among other places, in Karel Horálek, *Úvod do studia slovanských jazyků*, 2nd ed. (Praha, 1962), p. 397, and Bohuslav Havránek, "Ein phonologischer Beitrag zur Entwicklung der slavischen Palatalreihen", *TCLP*, VIII (1939), p. 334. Havránek lists several other sources which treat this material. The Central Slovak reflexes are significant for the interpretation of the palatalizations proposed by Halle and Lightner. (See discussion of their views in Chapter III.)

[6] This form is Old Polish; the Modern Polish form is *Czesi*. Cf. Z[enon] Klemensiewicz, T[adeusz] Lehr-Spławiński and S[tanisław] Urbańczyk, *Gramatyka historyczna języka polskiego* ([Kraków], 1955) p. 275: "Rzeczowniki osobowe, których temat ma w wygłosie *-ch*, np. *mnich Włoch*, zachowują do wieku XVII prawidłową końcówkę *-y* (<*-*i*) po stwardniałej *š*, a więc *mniszy Włoszy* itp., w ciągu wieku XVII przyjmują końcówkę *-i* na wzór form typu *sąsiedzi chłopi*, przy czym spółgłoska *š* wymienia się na miękką *ś*, np. *mnisi Włosi* . . . ."

TABLE 1

The Reflexes of the Slavic Palatalizations of Velars

	Palatalization by *j*	'First' Palatalization	'Second' Palatalization	'Third' Palatalization
East Slavic	č ž š	č ž š	c z s	c z s
South Slavic	č ž š	č ž š	c z s	c z s
Central Slovak	č ž š	č ž š	c z s	c z š
Lekhitic	č ž š	č ž š	c dz š	c dz š
Other West Slavic	č ž š	č ž š	c z š	c z š

The velars almost certainly went through some intermediate stage or stages before reaching their attested forms. Most likely, they first became fronted allophones on the order of *ḱ*, *ǵ*, *x́*, and then developed further from there.[7]

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[7] See Table 4, p. 48 below.

III

SOME VIEWS CONCERNING THE PROGRESSIVE PALATALIZATION

In this chapter, the views of various scholars on the problem of defining and dating the 'third' palatalization will be discussed. There are two often-held views concerning the environment of the 'third' palatalization — that it was characterized by a following acting together with the preceding front vowel, and that it was characterized by a following back vowel of one type or another. There is great disagreement among those who hold the latter view as to just which back vowels allowed the operation of the 'third' palatalization and which prevented it.

With regard to the chronology of the 'third' palatalization, there are again two widely-held views — that it took place after both the 'first' and 'second' palatalizations, and that it occurred between them.

Certain other views, some of which are radically different from the main trends outlined above, will also be discussed.

One of the early descriptions of the palatalization of velars after front vowels can be found in *Sobolevskij*'s article "Обще-славянскія измѣненія звуковъ" (1889).[1] Sobolevskij refers to both the progressive palatalization and the second regressive palatalization as the "second palatalization of gutturals" ("второе смягчение гортанных"), and he says that this palatalization took place under two sets of conditions: (1) under the influence of following 'soft' vowels, and (2) under the influence of preceding 'soft' vowels. The palatalization of type one occurred before *ě*<*ai̯* and before *i* which developed from this *ě* ("перед *u*, развившимся из этого *ѣ*").[2] He also cites one example where he says the change of *k* to *c* takes place before *ę* (*cęta* 'coin of small denomination' < Goth. *kintus*). The palatalization of type two occurred, according to Sobolevskij, before 'hard' vowels, apparently under the influence of preceding 'soft' vowels, especially *ь* and *i*. Cases of this palatalization are not numerous, he says, and are limited as to the sources of the words.

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[1] А. Соболевский, "Обще-славянскія измѣненія звуковъ", *РФВ*, XXII, No. 3 (1889), 1-49.

[2] Sobolevskij, p. 28.

They are:

1. words borrowed from Germanic with the suffix *-ęgъ* (= Gmc. *-ing-*);
2. verbs with the infinitive endings *-igati*, *-ęgati*, *-ьrgati*;
3. nouns in *-ьkъ* (= Lith. *-ĭkas*);
4. nouns, adjectives, and pronouns in *-ikъ* (not numerous);
5. diminutive nouns in *-ьka* (= Lith. *-ĭka*, *-ĭke*);
6. nouns and pronouns in *-ika*;
7. nouns in *-ьko*;
8. nouns and pronouns in *-iko*;
9. verbs in *-ikati*, *-ěkati*, *-ękati*, *-ьrkati*;
10. verbs in *-ixati*.[3]

He further cites a few examples, such as *polьdza* 'advantage, profit', *stьdza* 'path', *zьrcalo* 'mirror', which do not fall into these main types, and some verbs with a 'hard' vowel before *k*, but which have palatalization, apparently under the influence of verbs in *-icati*.

Sobolevskij states that the results of both types of the 'second' palatalization were 'soft' *c*, (*d*)*z*, *s*, and that the two processes were identical. As for dating, he says that the two varieties of the 'second' palatalization occurred at the same time ("Время, в которое совершилось в обще-славянском языке смягчение гортанных 2-го вида, без сомнения, совпало с временем, в которое совершилось смягчение гортанных перед *ѣ* и *и* из дифтонга")[4] and that they occurred after the 'first' palatalization.

Baudouin de Courtenay was one of the first, if not the first, to consider the progressive palatalization as a phenomenon apart from the diphthong palatalization, and to try to formulate exactly what its environment was.[5] According to him, scholars had previously resorted to the "accomodating *j*"[6] in order to explain the instances of the 'third' palatalization. He points out, though, that there is no justification for doing so, since *kj*, *gj*, *xj* in Slavic > *č*, *ž*, *š*, and since nothing in Slavic morphology justifies accepting *j* in the forms under discussion. Further, he considers Potebnja's attempt to explain the 'third' palatalization by assuming a geminate *j* to be completely unsuccessful.

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[3] This listing can be found on pp. 31-32 of Sobolevskij's article, along with numerous examples of each type.

[4] Sobolevskij, p. 32.

[5] J. Baudouin de Courtenay, "Einiges über Palatalisierung". This article was published in 1894. Sobolevskij's publication referred to above antedates this by five years (1889), but Baudouin indicates in the beginning of his article that the ideas contained in it were expressed in lectures delivered in Kazan' and Dorpat in 1880-1881. He mentions also that these views are quoted by Kruševskij in a publication of 1886. I. Grickat-Virk, in "Још о трећој палатализацији" (see pp. 25-26 below), refers to Buslaev as having been the first to write about this palatalization (1863), but he did not treat it in any detail.

[6] "Greift man gewöhnlich zu dem dienstfertigen *j* ...." (p. 46, or p. 51 in this text).

In contrast to this view, he proposes that the cause of this palatalization was a preceding front vowel — specifically, any one of the vowels *ĭ*, *ī*, $\underset{\circ}{n}_i$ or $\underset{\circ}{ŋ}_i$, $\underset{\circ}{r}_i$, $\underset{\circ}{l}_i$. He says further that *-i̯* (of the diphthongs *ei̯*, *oi̯*, *ai̯*) is not included here since these diphthongs had already been monophthongized to *ě*, *i* by the time of the palatalization. To support his claim that it was the preceding vowel which influenced the velar, he cites evidence of similar influence on velars, both from Slavic and from German. In this connection, he mentions several parallel cases. In German, the phonetic quality of velars varies according to whether they are preceded by front or back vowels ([iẋ] as opposed to [ax]); in Standard Russian, he says, there is a difference in the pronunciation of *k* in such words as *старик* 'old man', *старика*, *печник* 'stove maker', *печника*, as opposed to *рыбак* 'fisherman', *рыбака*, and so forth. In some dialects, he says, the forms *staŕiḱá*, *ṕečńiḱá* can be heard with a distinctly palatal *ḱ*.[7] In addition, he mentions that in some Russian dialects *ka*>*ḱä* when preceded by a soft consonant (e.g., *ḫožájḱä*, *tóĺḱä*, *ṕéčḱä* — Std.R. *хозяйка* 'hostess', *только* 'only', *печка* '(dim.) oven'), and that in a transitional dialect area in the Balkan Peninsula the forms *majt́a*, *devojt́a* are found instead of *мâјка* 'mother', *дѐвōјка* 'girl'. In all these cases, he points out, velars have been palatalized through the influence of preceding 'palatal' sounds.

Baudouin de Courtenay notes further that the progressive palatalization does not occur in all forms where it might be expected, and attributes these apparent exceptions to the position of stress. According to his formulation of the rule for the 'third' palatalization, velars underwent palatalization in the specified environment only if the following syllable was stressed. (This supposition has since been shown to be quite erroneous.)

Although Baudouin de Courtenay separates the progressive palatalization from the diphthong palatalization and treats them as separate phenomena, he states that they occurred at the same time ("gleichzeitig"), and assigns them both to the "second period of palatalization". The "first period of palatalization" was, of course, the time when the 'first' palatalization operated. He speaks also of a "third" and a "fourth period of palatalization", but these refer to later phenomena (the contemporary Russian and Balkan data cited above) and do not concern us here.

Lehr-Spławiński has written about the progressive palatalization several times. Two of his more important articles on the subject are "Nowsze poglądy na niektóre zjawiska t. zw. drugiej palatalizacji",[8] which deals mostly with the conditions for the progressive palatalization and its relation to the diphthong palatalization and "Próba datowania tzw. II palatalizacji spółgłosek tylnojęzykowych w języku prasłowiańskim",[9] which deals with the absolute chronology of the progressive palatalization. By "second palatalization", Lehr-Spławiński means the progressive palatalization.

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[7] This particular phenomenon is discussed by Baudouin de Courtenay on page 47 (page 51 in this text). More recent studies of Russian dialectology make no mention of it, but do treat the change of *k* to *k'* after palatalized consonants mentioned by Baudouin de Courtenay (see below).

[8] Tadeusz Lehr[-Spławiński], "Nowsze poglądy na niektóre zjawiska t. zw. drugiej palatalizacji", *Rocznik Slawistyczny*, IV (1911), 141-148.

[9] Tadeusz Lehr-Spławiński, "Próba datowania tzw. II palatalizacji spółgłosek tylnojęzykowych w języku prasłowiańskim", *Studia z filologii polskiej i słowiańskiej*, I (1955), 375-383.

In the first of these articles, Lehr-Spławiński reviews the opinions concerning the progressive palatalization which had been expressed up to that time (1911).[10] Miklosich, Brugmann, and Potebnja attributed the palatalization to the influence of a following *j*. Jagić, in 1887, in a review of Brugmann's *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*, disagreed and attributed the palatalization to a preceding front vowel. This opinion had been expressed as early as 1880 by Baudouin de Courtenay, who further connected the operation of the progressive palatalization with stress. Baudouin's analysis was accepted without reservation by Lorentz, Pedersen, and Rozwadowski; Vondrák rejected the influence of stress, but accepted the preceding front vowel as a conditioning factor. Leskien expressed doubt about the analyses of both Baudouin de Courtenay and Brugmann.

Šaxmatov drew attention to the fact that the environment following the velar had to be considered in a description of the progressive palatalization. He developed the idea that the palatalization took place only when the velar was preceded by a front vowel and was not followed by *ъ*, *u*, *o*, or *ǫ*. This led to a division within the paradigm — some forms occurred with a palatalized velar and some with an unpalatalized velar. The paradigms were later levelled by analogy. Lehr-Spławiński states, "Objaśnienie takie — mimo wielu słabych stron — ma tę wyższość nad prawidłem akcentowym Baudouina, że przypuszcza wpływ *następujących* samogłosek, co z punktu widzenia fizjologji mowy jest zupełnie uzasadnione...."[11] Kul'bakin was the first to pay attention to Šaxmatov's theory (1910). Zubatý developed the idea further; he disagreed with Šaxmatov's contention that *o* could prevent palatalization. Lehr-Spławiński adds his own thought that, in spite of Zubatý's opinion, this probably applies also to *ǫ*.

This entire discussion, says Lehr-Spławiński, is closely connected with the chronology of the progressive palatalization. Those who accept the influence of a following *j* move this palatalization to the time of the 'first' palatalization. This, he thinks, is unlikely, since there would have to have been two phases — $k > \check{c}$ and $k > c$. Rather, the reflex *c* suggests that the progressive palatalization is connected with the 'second' palatalization. Baudouin de Courtenay, and with him the majority of scholars, made this connection and considers the two developments to be simultaneous.

Only Jagić, says Lehr-Spławiński, claims that the progressive palatalization occurred significantly later than the 'second' palatalization. Lehr-Spławiński then refutes the arguments advanced by Jagić supporting this position, and presents arguments to support the idea that the progressive palatalization occurred before the 'second' palatalization. In his opinion, "Wiele tymczasem względów przemawia za tem, że początki palatalizującego wpływu poprzedzających palatalnych sonantów sięgają czasów *dawniejszych* niż okres drugiej palatalizacji."[12] Of primary importance is the fact that *o>e* after *c, z, s* from the progressive palatalization, as after *j, č, ž, š*. Pedersen was the first to notice this, and, on this basis, placed the progressive palatalization between the 'first' and 'second' palatalizations. This change of *o>e* must precede the monophthongization of diphthongs, as is shown by the ending *i* in the locative singular (e.g., *otьci*) which must come from **-ei̯<*-oi̯*. If the ending **-oi̯* had remained in these forms, it would have become **-ě*, and we should have the form **otьcě*.

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[10] References to these sources discussed by Lehr-Spławiński can be found in "Nowsze poglądy", pp. 141 ff.

[11] "Nowsze poglądy", p. 143.

Zubatý did not agree with this theory. He considered the progressive palatalization to be contemporaneous with the 'second' palatalization, and explained the change of *o>e* in these forms as analogy to the *jo*-stems. He admitted, though, that this analogy did not operate everywhere, and cited such forms as loc. sg. *vьsěmь*, loc. pl. *vьsěxъ*, voc. sg. *otьče*, *kъnęže*, etc. Ščepkin explained the first two of these forms as being analogous to the forms of other pronouns (*těmь*, *těxъ*, from *tъ* 'this'). The form of the vocative, says Lehr-Spławiński, can be explained to the detriment of Zubatý's theory. "Skoro wpływ analogji tematów na *-i̯o* był tak silny, że uległy mu wszystkie formy wszystkich innych przypadków, to dziwnym wydać się musi fakt, że voc. sg. we wszystkich bez wyjątku wypadkach temu wpływowi się oparł."[13]

Lehr-Spławiński also considers other, less-important arguments, of which some are of questionable validity. He ends with a short discussion of analogical levelling.

In "Próba datowania tzw. II palatalizacji", he uses the Germanic loan words which show the reflexes of the progressive palatalization in an attempt to establish the absolute chronology of the palatalization. This subject will be dealt with at the end of Chapter IV.

Trubetzkoy devotes part of his "Essai sur la chronologie de certains faits phonétiques du slave commun"[14] to a discussion of *Baudouin de Courtenay*'s description of the 'third' palatalization presented above. He says that Baudouin de Courtenay's formulation must be modified in several respects:

1. The condition relating to stress is wrong. The following vowel need not be stressed (as is shown by *zájęcь* 'rabbit', *kъnę́dzь*, etc.) and stress on the following vowel is no guarantee of palatalization (cf. *kъnęgýnji* 'princess'). The correct condition is rather, according to Trubetzkoy, that the vowel preceding the velar had to be unstressed.

2. Baudouin de Courtenay cites *l̥*^{i} and *r̥*^{i} among those vowels causing progressive palatalization. Trubetzkoy says that he does not know of any example of palatalization after *l̥*^{i}, and says that the examples for *r̥*^{i} are suspect, since palatalization after *r̥*^{i}

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[12] "Nowsze poglądy", p. 145.

[13] *Ibid.*

[14] N. Troubetzkoy, "Essai sur la chronologie de certains faits phonétiques du slave commun", *RÉSl*, II (1922), 217-234.

is found only in iterative verbs like *mьrcati* 'to grow dark', where the formulation could be analogous to that of *vycati*/*vyknǫti* 'to learn, grow accustomed'.

3. Baudouin de Courtenay assumes that the monophthongization of diphthongs occurred before the 'third' palatalization, but Trubetzkoy points out that this palatalization never occurs after *i*<*ei̯*, and that, therefore, *i* and *ei̯* must have been separate at that time.

4. Trubetzkoy takes exception to Baudouin's use of the symbol '*n̥*^{i}' and points out that palatalization takes place only after *ę*<*ĭn*, and, further, that *ĭn* before a velar would have been *ĭŋ*.

Working from these modifications, Trubetzkoy proposes the following formula: the velars (*k*, *g*, *x*, *ŋk*, *ŋg*) were palatalized when preceded by unstressed *ĭ*, and when followed by 'weakly labialized' vowels (*ŭ*, *ō*, *o*). When followed by 'strongly labialized' vowels (*ū*, *ọ̄*, *ọ*, *oi̯*), no change took place.[15]

Trubetzkoy states that the progressive palatalization of velars took place at a time when all back vowels of Common Slavic were labialized, and after the time when velars before front vowels were changed to palatals. However, the progressive palatalization took place before the time of the change of back vowels to front vowels after *j* or palatal consonants, since the paradigms of such words as *otьcь* (except for the vocative), *lice* 'face', and *rybica* '(dim.) fish' are identical to those of *konjь* 'horse', *morje* 'sea', and *volja* 'will', respectively. In addition, velars remain unpalatalized when preceded by *ĭ*<*ŭ* after a 'soft' consonant, e.g., *dušьka* '(dim.) soul' <**dọušjŭkō*.[16]

Although the two progressive palatalizations (of velars and of back vowels) do not happen simultaneously, Trubetzkoy says that they seem to be too similar for them to be separated chronologically from one another. They are, in his opinion, just two successive phases of the same process: when a phoneme of the 'palatal base' immediately preceded a phoneme of the 'labiovelar base', the latter tended to change to 'palatal'.[17]

Belić treats the progressive palatalization as being the youngest, and calls it the 'third' palatalization. In his article "Најмлађа (трећа) промена задњенепчаних сугласника *k*, *g* и *h* у прасловенском језику",[18] he discusses the progressive palatalization and comments on the views previously expressed by various scholars. In his opinion, the ordering of the palatalizations is 'first', 'second', 'third'. He points out that the 'third' palatalization is often regarded as a variant of the 'second', but that this view is wrong. The results of these two palatalizations, he says, were different — whereas the reflexes of *k*, *g*, *x* palatalized by the 'third' palatalization were 'soft' *c*',

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[15] Trubetzkoy gives an elaborate discussion of which vowels are 'weakly labialized', which are 'strongly labialized', and the reasons for these qualities.

[16] This is the form as Trubetzkoy gives it.

[17] This formula is somewhat unsatisfactory, since it ignores numerous instances where the specified condition did exist and no change took place.

[18] А. Белић, "Најмлађа (трећа) промена задњенепчаних сугласника *k*, *g* и *h* у прасловенском језику", *Јужнословенски Филолог*, II (1921), 18-39.

(*d*)*z*', *s*', the reflexes of the 'second' palatalization were 'hard' *c*, (*d*)*z*, *s*. This, he thinks, is evident from the fact that vowels after the consonants which resulted from the 'third' palatalization show clearly that the preceding consonant was 'soft' (since *ě*>*i* after these consonants), whereas the lack of the change of *ě* to *a* after the consonants which resulted from the 'second' palatalization shows clearly that these consonants were not 'soft'. Since their reflexes were different, the two palatalizations must be regarded as separate phenomena.

Belić then deals with the causes of the 'third' palatalization and with the opinions expressed by Baudouin de Courtenay, Brugmann, and Šaxmatov.[19] Baudouin de Courtenay's formulation concerning stress, according to Belić, has been accepted by many scholars, including Meillet and Rozwadowski. According to Belić, however, this view is wrong, and he presents arguments to show that stress was not a factor in the palatalization. Brugmann, he says, assumes that the 'third' palatalization was caused by a following *j*. Belić argues against this interpretation, using essentially the same argument as that given by Baudouin de Courtenay.[20] Šaxmatov's theory is that the following vowel must be considered, and, specifically, that the labialization of a following *o*, *ǫ*, or *ъ* prevented the 'third' palatalization. Belić thinks that Šaxmatov has given positive proof that labiality of the following vowel prevented palatalization, although he disagrees as to the specific vowels which have the ability to prevent palatalization. He also points out that Šaxmatov does not separate the 'third' from the 'second' palatalization.

Belić then presents a detailed argument, from which he concludes that *ъ* and *y* were the only vowels which prevented palatalization. He points out, also, that the palatalization never occurs before a consonant.

He treats the West Slavic development of *š*<*x* (for both the 'second' and 'third' palatalizations) as having come from *s* and *ś*. According to his view, the reflex of *x* was uniform throughout Slavic, and the West Slavic languages only later developed *š* by analogy.

> Из свега се овога види да ја сматрам једино могућним — објашњење у западнословенским језицима прелаза *ś* добивеног од *h* иза *ь* у *š* ...; међутим да не сматрам могућним прелаз *s* од *h* испред *i* или *ě* (од *oi*) гласовним путем у *š* (*sz*); већ да у тим случајевима видим пренос механичке везе *x* и *š* из других случајева истих или сличних речи, где је та веза оправдана.[21]

From the fact that there exist 'doublets', such as *polьga*/*polьdza*, etc., Belić infers that the 'third' palatalization lasted only a short time and ceased to operate before the end of the Proto-Slavic era. He considers and rejects the possibility of the 'third' palatalization having been caused by a preceding *-ьr-*. His statement of the conditions of the 'third' palatalization is that it occurred when the velars were preceded by either *ь*, *i*, or *ę*, and when they were not followed by *ъ*, *y*, or a consonant.

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[19] As cited by Belić, p. 19ff.

[20] See above, pp. 16-17.

[21] Belić, p. 31.

Trubetzkoy, in an addendum to his article cited above, made several criticisms of the argument advanced by Belić, which was published just slightly before Trubetzkoy's.

Trubetzkoy feels that his position is a synthesis of the views of Baudouin de Courtenay and Belić. Belić, he says, rejects Baudouin's argument, whereas Trubetzkoy claims only to be modifying it. His specific disagreements with Belić are:

1. Belić says that *ŭ* could prevent the progressive palatalization;
2. Belić denies the influence of stress;
3. Belić agrees with Baudouin de Courtenay that the progressive palatalization occurred subsequent to the palatalization of velars before *ě*<*oi̯*;[22]
4. Belić says that the reflex of the progressive palatalization of *x* in West Slavic is *š*, but that the reflex of the 'second' palatalization of *x* is *ś*.[23] Belić, Trubetzkoy continues, claims that the observed *š* is by analogy. Trubetzkoy would rather support the opposite point of view, namely, that those cases of *s* resulting from the 'second' palatalization of *x* (nom. pl. *mnisi* 'monks' in Polish and Slovak) are analogous to the alternations *k*/*c* and *g*/(*d*)*z*.[24]

A reply to Trubetzkoy by *Belić* was published in *Južnoslovenski Filolog*, III (1922-1923), 131-139. In a further article, "La troisième ou la plus récente palatalisation des gutturales", he reiterates his position and comments on the views expressed by Vondrák, Knutsson, and Nitsch.[25]

Vondrák expressed the opinion that the progressive palatalization is older than the second regressive palatalization and the monophthongization of diphthongs.[26] He considers the acquisition of the "soft declension" endings by words of the *otьcь*-type to be by morphological analogy within the paradigm.

Knut Knutsson, in "Über die sogenannte zweite Palatalisierung in den slavischen Sprachen"[27] (by which he means the Baudouin de Courtenay palatalization), brings back the theory that this palatalization was caused by a following *j*, but he adds the condition that *j* must be followed by a back vowel. Further, like Baudouin de Courtenay, he includes $\underset{\circ}{n}^{i}$, $\underset{\circ}{r}^{i}$, and $\underset{\circ}{l}^{i}$ in the list of vowels which could cause palatalization, although he has only one example for $\underset{\circ}{l}^{i}$ (*-mlьcati* 'to be silent'), and only one example for $\underset{\circ}{r}^{i}$ which is not an iterative verb (R. *берце*, *берцо* 'shin', which has either *k* or *č* instead of *c* in other Slavic cognates, and which could easily be a secondary formation).

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[22] Trubetzkoy says here, "M. Belić s'accorde avec M. Baudouin de Courtenay pour affirmer que la palatalisation progressive est postérieure à la palatalisation des gutturales devant *ě* issu de *oi*" (p. 233), although Baudouin de Courtenay, *op. cit.*, does not put the 'second' palatalization before the 'third', but says, rather, that they occurred together (p. 50 or p. 54 in this text).

[23] This is what Trubetzkoy says. Belić actually says that the West Slavic reflex of the 'second' palatalization was *s* and of the 'third' *ś*, and that these both became *š* at a later time. Cf. p. 21 above.

[24] Cf. Chapter II. Klemensiewicz, Lehr-Spławiński and Urbańczyk, footnote 6.

[25] A. Belić, "La troisième ou la plus récente palatalisation des gutturales", *RÉSl*, VIII (1928), 50-67. Vondrák's and Knutsson's opinions are treated below,

[26] Václav Vondrák, "O pozdějších palatalisacích v praslovanštině", *Slavia*, II (1923-1924), 17-25.

[27] *Lunds Universitets Årsskrift*, Ny Följd, Första Avdelningen, XXI, No. 9 (1925).

Knutsson's conclusion is that "Die indoeuropäischen Gutturale werden in gemeinslavischer Zeit zu ć, *dź*, wenn sie nach *ī*, *ĭ*, *n̥*^{i}, *r̥*^{i}, *l̥*^{i} und vor *i̯* + velarem Vokal stehen."[28]

Chapter III of Knutsson's work contains what appears to be an exhaustive listing of words which show (or supposedly show) reflexes of the 'third' (Knutsson's 'second') palatalization.

With respect to chronology, it is clear that Knutsson considers the progressive palatalization to have occurred before the diphthong palatalization, and he numbers them accordingly. Both these palatalizations, according to him, occurred after the 'first' palatalization.

Ekblom has devoted two monographs to the problem of the progessive palatalization, which he calls the "frühe dorsale Palatalisierung". The first of these, "Die Palatalisierung von *k*, *g*, *ch* im Slavischen",[29] appeared in 1935; "Die frühe dorsale Palatalisierung im Slavischen"[30] appeared in 1951. The subject is also discussed by him in "Le slave **koldęd́źь*",[31] which was published in 1937.

Ekblom agrees with Knutsson in saying that the palatalization was caused by a following *j*. In "Die Palatalisierung von *k*, *g*, *ch*" he says:

> Im frühen Urslavischen gingen *k*, *g*, *ch* vor vorderem Vokal in *č′*, *ǯ′*, *š′* über (apikale Palatalisierung). Das gleiche Resultat ergaben *k*, *g*, *ch* + *j*, ausser in den Fällen, wo diesen Kombinationen ein *i*-Vokal (*i*, *ь*, *i̯*) vorausging und gleichzeitig hinterer Vokal folgte. In diesem Ausnahmefall entstanden *ć*, *ʒ́*, *ś* (frühe dorsale Palatalisierung). Im späteren Urslavischen gingen *k*, *g*, *ch* in *ć*, *ʒ́*, *ś* vor vorderem Vokal über, der in dem Lautsystem erst nach der Durchführung der frühen Palatalisierung zustande gekommen war (späte dorsale Palatalisierung).[32]

In his opinion, then, it was the preceding *i*-vowel which caused the reflexes of the progressive palatalization to be different from those of the palatalization by *j*.

Ekblom considers the verbs in *-ćati*, *-ʒ́ati*, *-śati* to have been formed by analogy with the imperative, which would have had palatalized consonants. As for the Germanic loan words in *-ęʒ́ь*, he considers these to be examples of the 'second' ("späte dorsale") palatalization, which he says took place before front vowels newly introduced into the language, either through the monophthongization of diphthongs or through loan words.[33]

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[28] Knutsson, p. 138.

[29] R. Ekblom, "Die Palatalisierung von *k*, *g*, *ch* im Slavischen", *Skrifter utgivna av Kungl. Humanistiska Vetenskapssamfundet i Uppsala*, XXIX (1934-1938), No. 5 (1935).

[30] R. Ekblom, "Die frühe dorsale Palatalisierung im Slavischen", *Skrifter utgivna av Kungl. Humanistiska Vetenskapssamfundet i Uppsala*, XXXIX (1950-1952), No. 2 (1951).

[31] R. Ekblom, "Le slave **koldęd́źь*", *Acta Jutlandica*, IX (1937), 414-419.

[32] Ekblom, p. 40.

[33] Ekblom, "Die Palatalisierung von *k*, *g*, *ch*", pp. 18 ff. Cf., also, "Le slave **koldęd́źь*", p. 415: "Par contre, les mots d'emprunt germaniques en *-ьd́źь*, *-ęd́źь* cités ci-dessus sont, sans aucun doute, entrés en slave à une époque relativement tardive, et ils doivent leur forme définitive à la 3^{e} palatalisation (selon ma terminologie, 2^{e} palatalisation dorsale), qui a dû se faire à peu près aux VII^{e} et VIII^{e} siècles."

Ekblom clearly places the progressive palatalization ("frühe dorsale Palatalisierung") before the 'second' palatalization ("späte dorsale Palatalisierung"), and even thinks that the "frühe dorsale Palatalisierung" relates to the time of the 'first' palatalization ("apikale Palatalisierung"). In "Die frühe dorsale Palatalisierung" he says, "Die apikale und die frühe dorsale Palatalisierung haben sicherlich ungefähr gleichzeitig begonnen, jedenfalls mit sehr geringem Zeitunterschied."[34]

As for the absolute chronology of the palatalizations, Ekblom considers that they are rather late. He treats the subject briefly in "Die frühe dorsale Palatalisierung", where he states:

> Wann die apikale Palatalisierung ihren Anfang nahm, kann auch nicht annähernd sicher entschieden werden. Sie dürfte um 500 n. Chr. herum im Gange gewesen sein und gleichzeitig mit der frühen dorsalen oder vielleicht etwas früher begonnen haben.... Um 700 herum hat die apikale Palatalisierung anscheinend begonnen durch die späte dorsale ersetzt zu werden. Wann die verschiedenen Palatalisierungen aufhörten, lässt sich einigermassen sicher bestimmen. Die apikale dürfte ungefähr Anfang des 8. Jahrhunderts aufgehört haben, die beiden dorsalen ungefähr Mitte des 9. Jahrhunderts.[35]

Most of the rest of "Die frühe dorsale Palatalisierung" is devoted to a reiteration and justification of Ekblom's position expressed in "Die Palatalisierung von *k*, *g*, *ch*" and to a rebuttal of the criticisms of the latter monograph made by Milewski, Otrębski, and Lokrantz.[36]

Havránek in 1939 agreed with Ekblom and Milewski that the progressive palatalization preceded the 'second' palatalization, and said that, in his opinion, the problem of the chronology had not yet been definitively worked out.[37] He does state, however, that Ekblom's work ("Die Palatalisierung von *k*, *g*, *ch* im Slavischen") is "derzeit die beste Darstellung der urslavischen Palatalisierungen der Velare vom phonetischen Standpunkt."[38] He argues also that the Slovak reflexes of *š* for the progressive palatalization (like East and South Slavic, but unlike West Slavic) and *s* for the second regressive palatalization (like West Slavic) suggest that the latter occurred after the former.

Van Wijk gives the environment causing the 'third' palatalization as "after *i*, ь, *ę*, and perhaps *r̥*." He summarizes previous opinion on the subject of the progressive palatalization in his *Geschichte der altkirchenslavischen Sprache*.[39] Baudouin de

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[34] Ekblom, p. 16.

[35] Ekblom, pp. 75-76.

[36] Reference to these articles can be found in Ekblom, "Die frühe dorsale Palatalisierung".

[37] Bohuslav Havránek, "Ein phonologischer Beitrag zur Entwicklung der slavischen Palatalreihen", *TCLP*, VIII (1939), 327-334.

[38] Havránek, p. 328, footnote 4.

[39] Nikolaas van Wijk, *Geschichte der altkirchenslavischen Sprache* (= *Grundriss der slavischen Philologie und Kulturgeschichte*, VIII) (Berlin-Leipzig, 1931), I, 67-69. See also his article "К истории фонологической системы в общеславянском языке позднего периода", *Slavia*, XIX, No. 3-4 (1950), 293-313.

Courtenay, he says, was wrong about the requirement of stress on the vowel following the velar. Šaxmatov formulated a theory which states that the labialization of the vowel following the velar prevented palatalization. Among the vowels preventing palatalization he lists *ъ*, *u*, *o*, *ǫ*, and possibly *y*. Zubatý is in general agreement, but does not include *o* in the list of vowels which could prevent palatalization. Lehr-Spławiński also agrees, but does not include either *o* or *ǫ*. Belić considers that only original *u*-sounds (*ъ*, *y*) could prevent palatalization, and denies the palatalizing influence of a preceding *r*. Trubetzkoy combines this following-vowel condition with a modification of Baudouin de Courtenay's idea about stress, and says that the progressive palatalization took place only after unstressed *ĭ*, *ī*, *iŋ*, when not followed by *ū*, *ǭ*, *ǫ*, *oi̯*. All these theories, van Wijk says, have to take into account internal levelling within a paradigm.

About the chronology, he says that the 'second' palatalization is younger than the 'first', as is the 'third'. In support of this latter claim, he cites the evidence of the vocative of such nouns as *otьcь*, which show the reflex of the 'first' palatalization (*otьče*). However, he feels that it is much more difficult to define the relation of the 'third' to the 'second' palatalization. In connection with this, he points out certain forms of *vьsь* (e.g., loc. pl. *vьsěxъ*), as opposed to loc. pl. *otьcixъ*. If the form *otьcixъ* is in accord with the sound law, he argues, then the 'third' palatalization is older than the 'second'. If, though, the form *vьsěxъ* is regular, then the 'second' is older, and the form *otьcixъ* must have arisen by analogy to the soft stems.

This last alternative, in spite of the opinions of Ščepkin, Lehr(-Spławiński), Trubetzkoy, and Vondrák, is preferable.[40] He calls it unacceptable, in view of the declension of the pronoun *sь*, for a paradigm to have lost its forms in *-i-* under the influence of the hard stems. As opposed to this, the form *otьcixъ* could very possibly have arisen by analogy to the soft stems.

Grickat-Virk gives a concise summary of many of the views on the 'third' palatalization up to 1951.[41] She lists three main views of the cause of this palatalization:

1. the influence of a following front vowel (Otrębski) or *j* (Leskien, Miklosich, Potebnja, Brugmann);
2. the influence of a following *j* + back vowel (Brugmann, in a later edition, Mikkola, Knutsson, Ekblom);
3. the influence of a preceding front vowel, sometimes with other considerations, such as stress or labialized elements following the velars, taken into account (Jagić, Baudouin de Courtenay, Hirt, Rozwadowski, Pedersen, Šaxmatov, Trubetzkoy, Belić).[42]

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[40] Van Wijk, *Geschichte*, p. 68.

[41] И. Грицкат-Вирк, "Још о трећој палатализацији", *Јужнословенски Филолог*, XIX (1951), 87-110.

[42] References to these and other sources cited by Grickat-Virk can be found on pp. 88-94, *op. cit.*

Belić, she says, made necessary corrections in these views and formulated the theory clearly.

Grickat-Virk, in general, agrees with Belić, and argues that the 'third' palatalization must be considered as the youngest, using the same arguments as those used by Belić.[43]

After a consideration of the parallel formations which exist with either palatalized or unpalatalized velars, Grickat-Virk arrives at the following conclusion:

> [Долазило] је под условима које смо навели за трећу палатализацију ... до умекшаногласа *k'* (*g'*, *ch'*) још на прасловенском земљишту, па је после тога настајала бифуркација у којој је одлучивала мекоћа одн. тврдоћа претходног сугласника: у случају мекоће тог сугласника *k'* се Враћало на *k*, а у случају тврдоће мењало се даље до *c*.[44]

Her explanation of the doublets, then, is that there was dissimilation of the intermediate stage *k'* against the consonant of the preceding syllable. This, she says, is supported, on the one hand, by evidence in Russian and Polish, where the preceding consonant was semi-palatalized or palatalized, and where the forms with velars seem to be more common, and, on the other, by evidence in Serbo-Croatian and Old Church Slavonic, where the preceding consonant was not palatalized, and where the forms showing the 'third' palatalization seem to be more common. Of course, there are parallel suffixes in all these languages where, for example, *k* is opposed to *c*, but these are due to semantic and grammatical differentiation.

Machek accepts the central part of Ekblom's opinion about the progressive palatalization.[45] He agrees that it preceded the 'second' palatalization, and formulates the rule that the "Baudouinsche Palatalisierung" affected *k* and *g* when they were preceded by *ь*, *i* or **i̯* and followed by **ŏ* (**ă*). His main point of difference is that he does not believe that *x* was affected by the 'third' palatalization. He says that there are only two examples of *x*>*s* for the 'third' palatalization (*-smisati sę* and *vьsь*) and he explains the *s* in these forms as coming from a different source.

Bielfeldt lists the environment of the 'third' palatalization as "after *i*, *ь*, *ę*, *r̥*'" and before a vowel.[46]

As for the chronology, he avoids the problem of the relation of the 'third' palatalization to the 'second', but says that they must both have occurred after the 'first' palatalization, since the 'first' must have occurred before the monophthongization of the diphthong *oi̯*, and since the vocative singular of nouns palatalized by preceding vowels shows the reflex of the 'first' palatalization. Bielfeldt also states that the 'first' palatalization began, at the latest, around the middle of the first millennium, and that all the palatalizations had been completed by the time of the first Old Church Slavonic manuscripts (ninth century).

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[43] See pp. 20-22 above.

[44] Grickat-Virk, p. 107.

[45] Václav Machek, "Zur Erklärung der sog. Baudouinschen Palatalisierung im Slavischen und im Baltischen", *Cercetări de Lingvistică*, III, Supplement, 327-335.

[46] Hans Holm Bielfeldt, *Altslawische Grammatik* (= *Slawistische Bibliothek*, VII) (Halle, 1961).

[47] С. Б. Бернштейн, *Очерк сравнительной грамматики славянских языков* (Москва, 1961).

Bernštejn considers the diphthong palatalization to have occurred prior to the progressive palatalization.[47] Furthermore, in his opinion, these two palatalizations did not have the same results. The consonants which resulted from the diphthong palatalization were 'hard', while those which resulted from the progressive palatalization were 'soft'. This view, Bernštejn says, is widely held, and is accepted (or at least suggested) by Leskien, Nahtigal, and van Wijk, among others.[48]

Bernštejn thinks that the 'hard' *c*, *dz*, *s*/*š* were merely positional variants of the velars *k*, *g*, *x* before the vowels *ě*$_2$[49] and *i* (<*oi̯*), and that, therefore, the process by which they arose should not be called a 'palatalization'. The term 'second palatalization' should be applied to the process which is usually called the 'third (i.e., progressive) palatalization'; but the development of the 'hard' *c*, *dz*, *s*/*š* still preceded the development of the 'soft' series. Both these processes, he says, occurred after the change of *ě* to *a* following *j* and palatal consonants,[50] which, in turn, occurred after the 'first' palatalization.

Bernštejn follows the view that the progressive palatalization took place after *ь*, *i*, *ę*, and ^{b}*r̥*; he calls this process a "rare example of progressive assimilation in Proto-Slavic." *ě* following the reflexes of the progressive palatalization was replaced by *i*. Bernštejn says that this was caused by the shifting of words like *otьcь* from the 'hard' to the 'soft' declension within the *o*-stems. This came about because such words after the operation of the progressive palatalization ended in 'soft' consonants rather than 'hard' ones, as they had before. He adds, "В противоположность этому звательная форма *otьče* сохранялась старая, так как в данном случае не существовало противоречий между твердым склонением *v*^{b}*l̥če* и мягким *otьče*."[51]

The 'inconsistency' of the 'third' palatalization, says Bernštejn, is one of its most important characteristics. The only thing that we can be sure of is that this palatalization took place due to the influence of preceding *ь*, *i*, *ę*, ^{b}*r̥*, and that it took place only before a vowel. Bernštejn considers Baudouin de Courtenay's condition concerning the influence of stress on the operation of the palatalization, and concludes, "Можно утверждать, что нет никакой взаимосвязи между изменением заднебных и местом ударения."[52] Bernštejn disagrees also with Šaxmatov's theory concerning the influence of a following back vowel. He reluctantly comments that a complete explanation of this phenomenon cannot yet be given.

In dealing with the chronology, Bernštejn mentions several arguments. Some scholars have tried to use loc. sg. *otьci* to show that the 'third' palatalization preceded the 'second'. This, he says, is wrong, because *otьci* is a later form, which did not arise until after the operation of the progressive palatalization. From the fact that the 'third' palatalization operated after *ę* and ^{b}*r̥*, he concludes that the 'third' palatalization must have occurred later than the formation of nasal vowels and syllabic liquids. He says that there is every reason to assume that these latter developments occurred after the monophthongization of diphthongs ending in *-i̯* or *-u̯*,[53] and, therefore, the 'second' palatalization would have to have preceded the 'third'. The operation of the 'second' palatalization was regular, but the operation of the 'third' was not, and forms showing the 'third' palatalization often demand morphological explanations. This, Bernštejn says, might indirectly speak for the greater age of the change before $\check{e}_2$ and *i*.

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[48] Bernštejn, p. 201.

[49] Bernštejn uses this symbol to designate *ě* derived from the diphthong *oi̯*, and to separate this *ě* from the original *ě* (*ě*$_1$) derived from an earlier *ē*.

[50] Bernštejn states that the change of *ě*>*a* preceded both the palatalization before front vowels derived from diphthongs and the progressive palatalization. This order seems unlikely; cf. pp. 46-47 below.

[51] Bernštejn, p. 208.

[52] Bernštejn, p. 209.

Bernštejn has one additional substantial argument to support his claim that the palatalization after front vowels took place "significantly later" than the palatalization before former *oi̯* diphthongs. This concerns the South Slavic languages, which occupy a "special place" ("особое место") with respect to the 'third' palatalization, since they have the greatest number of examples of this palatalization. (Even among these, however, there are fluctuations.) Bernštejn says that such variants in Russian as *зеркало/зерцало* 'mirror' are easily explained as having arisen under the influence of Old Church Slavonic (i.e., Southern Slavic). The alternation between the verbal suffixes *-цать*, *-зать*, on the one hand, and *-кать*, *-гать*, on the other, is simply a Church Slavonic Russian contrast; and, he points out, the stylistic difference in the usage of these pairs has long been recognized — the variants with *ц* or *з* are of a higher style than those with *к* or *г*. Furthermore, Bernštejn feels that the forms in *ц*, *з* are foreign to the Russian phonetic system. The *з* in the ending *-зать* and in such words as *польза* is 'hard', which clearly indicates an Old Church Slavonic ("старославянский") source; the analogous Russian forms would have a 'soft' *з* (cf. *нельзя* 'one may not, it is not permitted', *князь*, etc.).[54] In the same way, he thinks, many words in the Russian literary language which reflect the 'third' palatalization are of Old Church Slavonic origin; for example, the suffix *-ица* is rare in Southern Russian dialects, and is usually replaced by *-ика*. In the South Slavic languages, though, the suffix *-ica* is very productive; also, there is a large number of verbs in *-цать* and *-зать*[55] (e.g., SCr. *ди̏зати*, *ни̏цати*, *осе́зати*, *прори́цати*, *се̏зати се*, and many others). This material shows that the 'third' palatalization operated most regularly in the parent dialects of the South Slavic languages, he says. These variants must be considered as dialectal phenomena; previously it has been thought that they were all included within one system.

As a result of the first two palatalizations, Bernštejn continues, the alternations within the three series *k/č’/c*, *g/ž’/dz*, and *x/š’/s-š* were created. There are many examples of these alternations, and they cover various grammatical categories. The operation of the ‘third’ palatalization produced the alternations *k/č* (sic — *č*’?)/*c*’, *g/ž’/dz*’, and *x/š’/s*’-*š*’. Usually we find only the alternation of the latter two phonemes of each group. There was no alternation between the ‘hard’ *c*, *dz*, *s/š* and the ‘soft’ *c*’, *dz*’, *s’/š*’. In the distant past, these two groups of consonants fell together, in connection with the hardening of affricates, softening of consonants before front vowels, and various other phonetic processes.

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[53] Cf. Bernštejn, p. 209. He makes this statement without elaborating on it or justifying it further.

[54] According to Bernštejn, the 'soft' reflexes of the 'third' palatalization became hard in Old Church Slavonic (cf. Bernštejn, p. 201).

[55] Cf. Bernštejn, p. 210. These are the forms he uses to cite the infinitive endings. In South Slavic languages, however, the infinitive either ends in *-ti* or has been lost altogether.

Bernštejn places the ‘second’ and ‘third’ palatalizations in the period of the earliest breakup of Slavic into an Eastern and a Western dialect. This division, he says, took place in the last two centuries B.C. and the first two centuries A.D.[56]

In *A Prehistory of Slavic*, *Shevelov* states the environment of the progressive palatalization as depending on a preceding *ĭ* or *ę*<**į*, and locates the center of this palatalization as the territory of the southwest Slavic tribes, by which he means the linguistic area of South Slavic, plus Czech.[57]

Shevelov takes the view that the order of the three palatalizations is the traditional one. He calls the progressive palatalization a ‘transgressive’ sound change, i.e., one which transgressed the syllable boundary. “The absolute chronology of the third palatalization,” in his opinion, “places its beginning at the peak of the second palatalization and its end after the extinction of the latter.”[58] He cites and discusses three arguments adduced for the opposite view (that the order was 1-3-2): the paradigm of words of the *otьcь*-type (as discussed here on page 45), lack of palatalization “after what is supposed to be the suffix -*ŭk*- preceded by *j*”, and the word *igo*.

He refutes these arguments according to premises which he has set up for Slavic phonology, and then adds some further arguments. The progressive palatalization, he says, was “in a sense an excessive palatalization”, and comments that it is therefore “more logical to assume that it was the last.[59]” He says also that this palatalization took place “after all *i*-type vowels (*ĭ*, *ī*, **į*) but not after *ě*$<_0$*ai* .... This proves that the third palatalization took place when there was no more *i* in this vowel, i.e., after its monophthongization into *ě*, a development which was closely connected in time with the second palatalization.”[60] However, it need not be taken to ‘prove’ anything of the sort. The key is in the phrase which Shevelov himself uses, “after all *i*-type vowels.” The *i̯* of *oi̯* (like the *i̯* of *ei̯*) is not a vowel, but a semivowel; and a distinctive-feature

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[56] This early dating of the ‘second’ and ‘third’ palatalizations seems unlikely. The implication that the ‘first’ palatalization is even earlier also seems unlikely. See pp. 44-47 below.

[57] George Y. Shevelov, *A Prehistory of Slavic: The Historical Phonology of Common Slavic* (Heidelberg, 1964).

[58] Shevelov, p. 351.

[59] Shevelov, p. 354. The characterization as ‘excessive’ seems strained.

[60] Shevelov, p. 354.

[61] This also explains the lack of palatalization after *ei̯* (cf. OCS *tixъ* ‘silent’, *lixъ* ‘excessive’, R *mur* ‘moment’), as observed by Meillet and Vaillant, Trubetzkoy and others. The non-vocalic quality of *i̯* is discussed by Mareš, cf. p. 33 below.

representation of Common Slavic would describe it as a "non-vocalic, non-consonantal" segment.[61] Shevelov's argument is therefore not to the point.

Shevelov's last argument is that nasal vowels "probably" arose in Common Slavic after the monophthongization of *i*-diphthongs and that the progressive palatalization must have developed after the rise of nasal vowels, since it took place after **į*. Neither of these premises is necessarily true. The first may be true, but Shevelov has offered no support for it. The second premise may be quite erroneous, in view of the argument concerning velar nasals used by Trubetzkoy and Mareš.[62] As they make clear, it is not at all necessary to assume that *in* had already been monophthongized by the time of the progressive palatalization.

Shevelov is quite right, though, in maintaining the necessity of considering the syllable structure as a whole in order to understand the nature of the 'third' palatalization. An understanding of the syllable structure of Slavic at the time is the key to understanding the progressive palatalization, and this subject will be dealt with below, in Chapter IV.

Shevelov places the absolute chronology of the 'third' palatalization between the seventh and the ninth centuries, overlapping with the 'second' palatalization (fifth to eighth centuries). In setting the upper limit on the time of the 'third' palatalization, he says "This means that the third palatalization operated in the late eighth-early ninth century, which also is the time of Varangian activity in the Slavic lands. As the early borrowings from them also follow the trend of the third palatalization, it obviously was in full swing at that time."[63] Shevelov does not state which early borrowings he has in mind, but some of the earliest must surely have been the proper names *Игорь* (<Ingvarr), *Ольгъ* (<Helgi), *Ольга* (<Helga) and the Varangians' own name, *варѧгъ* (<*varingr). These words show no trace of the progressive palatalization (Npl. *варѧǯи* is a product of the 'second' palatalization) and thus we must conclude that the 'third' palatalization was not "in full swing at that time", and that it had in fact ceased to operate by then.[64] As for the words in *-ęзь* from Germanic *-ing*, they are more likely to be borrowings from Gothic or other Germanic before the arrival of the Varangians in Russia.

Shevelov also says, "The delabialization of vowels concomitant to the third palatalization of velars was important in that it extended the principle of intrasyllabic harmony to the next syllable as a whole."[65] This seems somewhat overstated, since the change affected only a relatively small number of words, and since it took place under rather complicated restrictions. His "Other manifestations of the trend toward word harmony"[66] are isolated and spotty, and even together with the 'third' palatalization can hardly be deemed strong enough to be a "trend toward word harmony."

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[62] Cf. p. 20 above and p. 34 below. This view of palatalization after *in* is quite convincing and neat.

[63] Shevelov, p. 350.

[64] Shevelov says that there is no palatalization here because these words may have come into Old Russian through the Novgorod area, where the 'third' palatalization was "in general resisted". But if the 'third' palatalization was "in full swing" in the South at the time there should still have been palatalization there. See also p. 48 below.

[65] Shevelov, p. 349.

[66] Shevelov, pp. 360-362.

According to *Stankiewicz*, the palatalization caused by preceding front vowels occurred prior to the one caused by new front vowels derived from diphthongs.[67] The basis for this view is that the palatalization by preceding vowels must have occurred before the monophthongization of diphthongs, while the palatalization by new front vowels occurred, by definition, after the monophthongization of diphthongs.

He formulates the environment of the progressive palatalization in the following way: the velars *k*, *g*, *x* became palatals *ć*, *dź*, *ś* when preceded by *ь*, *i*, *ir*, or *in*, and when followed by a low back vowel. This latter condition is necessary to account for the lack of palatalization in words like *kъnęgyni*, alongside *kъnędzь*.

The supposed palatalization after *ę*, he says, applies only to *ę* derived from Indo-European *in*, and, therefore, we must assume that the progressive palatalization took place before the development of nasal vowels from diphthongs ending in a nasal. In Stankiewicz's opinion, the elimination of diphthongs ending in a nasal took place after the monophthongization of diphthongs ending in a semivowel, and, therefore, the progressive palatalization had to have taken place before the monophthongization of these diphthongs. It is precisely this monophthongization, though, that is a prerequisite for the second regressive palatalization, and so the latter palatalization must have followed the progressive palatalization.

When analyzing the progressive palatalization of velars, it is necessary to assume that analogy played an important role in determining the phonemic shapes of words. For example, in nouns it is easy to see how some kind of feeling for the paradigm of a word could contribute to the elimination of certain consonantal alternations, especially if there were already other consonantal alternations taking place in the same word (e.g., **otьkos* — voc. *otьče*). Given this alternation of *k*/*č*, a further alternation of *k*/*ć* or *k*/*c* in the same word would have been rather complicated. In addition, the alternation of *k*/*č* could be associated with the vocative as a kind of morphophonemic formative element; similarly, for the second regressive palatalization, the altered forms were connected with the locative singular and plural and the nominative plural. In the case of the progressive palatalization, though, no such clear-cut morphophonemic connection could be made, since the different declensions would reflect progressive palatalization in differing case forms. It seems, though, that this palatalization did finally become associated at least in part with morphophonemic distinctions; it seems to have assisted in differentiating among the genders of suffixes. For example, among the **-nik-* suffixes, the masculines generally retain the form without palatalization, while the feminines have the form *-nic-*; among the **-ьk-* suffixes, though, the feminines generally retain the unpalatalized form, while the masculines and neuters have *-ьc-*. The progressive palatalization is not common in verbs, but where it does appear it seems to be associated with the formation of the iterative aspect, and even appears in some verbs where the velar is not preceded by a front vowel. This method of verb derivation has become quite generalized in contemporary Serbo-Croatian, so that now this morphophonemic alternation exists quite productively in verbs where it is not phonologically justified.

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[67] The material presented here has been drawn from lectures given at the Linguistic Institute, Indiana University, in the summer of 1964, and from private communication.

The 'second' palatalization has, perhaps in part, been able to survive as well as it has because of the fact that it could and did become associated with morphophonemic processes; but it should be noted that this alternation, too, shows signs of losing its productiveness. The results of the 'second' palatalization have been completely eliminated from declension in Russian; in Czech, Slovak, and Serbo-Croatian they have been eliminated from the locative singular of masculine and neuter nouns ending in *-k*, *-g*, *-h* (<*g*), *-ch* (=*x*) through substitution of the endings *-u*, *-ovi* for the ending *-'e*; in Czech and Slovak the results of the 'first' palatalization have been eliminated in the same way from the vocative singular of the same nouns; some languages have lost the 'second' palatalization from the locative plural through generalization of the *a*-stem ending *-ax* (e.g., Polish, Russian, and neuters in Slovak) or through substitution of another ending (e.g., *-och* for masculines in Slovak); in Polish, Czech, and Slovak the alternation has been lost from the nominative plural of many nouns through development of the masculine personal endings *-owie*, *-ové*, *-ovia*, respectively, since many of the nouns ending in *-k* are masculine personal nouns formed with the suffixes *-ik* or *-nik*; in Macedonian and Bulgarian the loss of declension has resulted in the disappearance of the alternations in nouns caused by the 'second' palatalization, except in the (nominative) plural forms.

Mareš, in his article "Vznik slovanského fonologického systému a jeho vývoj do konce období slovanské jazykové jednoty",[68] has proposed a very interesting and quite new view of the 'third' palatalization. He says, "Tak zvaná III. palatalisace se provedla důsledně, a to tehdy, jestliže před velárou bezprostředně předcházel vysoký vokál palatální a bezprostředně následoval nízký vokál velární."[69] The palatalization had two phases, and, thus, two causes.

1. In the sequence high front vowel – velar – low back vowel, the two vowels have a double opposition — high-low and front–back. Therefore, he says, the low back vowel was assimilated to a low front vowel — *dǟwÿ̄kā* (trad. *děvika* 'girl')> *dǟwÿ̄kǟ*.[70]
2. Then, the sequence high front vowel – velar – low front vowel underwent a normal

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[68] František Václav Mareš, "Vznik slovanského fonologického systému a jeho vývoj do konce období slovanské jazykové jednoty", *Slavia*, XXV, No. 4 (1956), 443-495. A slightly revised English version of this article has appeared as *The Origin of the Slavic Phonological System and Its Development up to the End of Slavic Language Unity*, translated by J. F. Snopek and A. Vitek, *Michigan Slavic Materials*, No. 6 (Ann Arbor, 1965). However, since this publication is not readily available, references to the original Czech version have been maintained.

[69] Mareš, p. 465.

[70] Mareš uses this system of transcription throughout the article, and, when referring to a new word, gives a gloss in traditional transcription.

regressive assimilation — *dā̆wȳ̆kā̆>dā̆wȳ̆ḱā̆*. At a later time, this *ḱ* was assimilated to *c*, yielding *dā̆wȳ̆cā̆* (trad. *děvicě*).

As for the dating, Mareš says that the 'third' palatalization is quite old, but that it can safely be supposed that it is younger than the 'first' palatalization ("bezpečně lze předpokládat, že je mladší než palatalisace I.")[71]. However, he claims that it is older than the consistent application of the Law of Open Syllables. As proof of this, he cites the evidence that the 'third' palatalization did not take place after *ьr*, *ьl* (he considers such words as *mlьcati*, *tlьcati* 'to push, knock', *zrьcalo*, etc., to be analogous formations), since, before the time of the operation of the Law of Open Syllables, the velar was not in immediate contact with the preceding high front vowel. However, the palatalization had to take place after *ьn*, since before a velar *n*>*ŋ*, and thus there was direct contact of a velar with the preceding high front vowel.[72]

If the 'third' palatalization had taken place after the consistent application of the Law of Open Syllables, the velars would have been in the position following *ę*, where there was no reason for palatalization to occur (as it did not occur after *e* or *ě*). For this reason, also, palatalization did not occur after *i*<*ei̯*, since, according to Mareš, *i̯* was not a vowel, and since the monophthongization of diphthongs (part of the process of opening the syllable) took place after the time of the 'third' palatalization.

Of course, morphological analogy played a role in levelling the stem-final consonant of those nouns which show 'third' palatalization. According to Mareš, the paradigm of nouns of the *otьcь*-type would have had a palatalized velar in ten forms (not including the vocative in *-č-*) and an unpalatalized velar in only five forms. Nouns of the *stьdza*-type would have had 'third' palatalization in twelve forms and unpalatalized consonants in only four. This, he feels, is ample reason for the palatalized form to have been generalized throughout the paradigm. "Při takové převaze palatálních forem, totožných s příslušným skloňováním *jo*-kmenů, a *jā*- kmenů, nebylo možno nepřeřadit celé paradigma k deklinaci měkkých kmenů i v zbývajících nepalatalisovaných pádových tvarech."[73]

After the consistent operation of the Law of Open Syllables, the necessary conditions for the 'third' palatalization no longer existed. The syllable boundary had been strengthened. Furthermore, the number of cases where a velar could be followed by a low back vowel had been significantly reduced by the operation of the 'third' palatalization. Thus, this palatalization was no longer functioning when, through the operation of the Law of Open Syllables, the proper conditions again existed (e.g., gen. sg. *učenika* 'pupil'<**učenei̯ka*, *vrьcha* 'summit'<**vьr̯ cha*, *vlьka* 'wolf'<**vьl̯ka*); however, new derivations from fixed suffixes do not come under this restriction (e.g., *mǫčenica* 'martyr (f.)').

The 'third' palatalization is also, according to Mareš, "quite probably older"

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[71] Mareš, p. 466.

[72] Cf. Trubetzkoy's discussion of this point, p. 20 above.

[73] Mareš, p. 467. *i̯o-* and *i̯ā-* in the original have been changed here to *jo-* and *jā-* in accordance with a private communication from Professor Mareš.

("dokonce asi starší") than the palatalization of vowels (change of back vowels to front vowels after *j* or palatal consonants), which he considers a younger phase of syllabic synharmony. The word *jъgon* (>*igo* 'yoke') is proof of this, since, if it had been **jьgon* at the time of the 'third' palatalization, there should have been palatalization of *g*.

Concerning the relative chronology of the 'second' and 'third' palatalizations, Mareš states:

> Je jasné, že relativní chronologie t. zv. II. a III. palatalisace je obrácená: III. palatalisace (trad. *otьca, stьʒa, kъnęʒa*) je starší než palatalisace II. (loc. trad. *rǫcě, noʒě* a pod.). Pokud nebude podána chronologie přesnější, svědčí společné výsledky jen o tom, že assibilace obou palatalisací spadá do téže doby; jinými slovy: t. zv. III. palatalisace mohla značně dlouho trvat v stadiu k′, g′, ch′, pak vznikla nová k′, g′, ch′ palatalisací druhou a potem se společně assibilovaly v *ć, ʒ́, ś*, (zsl. *š*).[74]

As for absolute chronology, Mareš indicates that the contact of the Slavs with the Germans can be taken as a *terminus a quo* for the 'third' palatalization, since Germanic loan words (*kuning* 'king', *pfenning* 'penny', etc.) show the reflex of the 'third' palatalization. He adds that it will be possible to say more when we succeed in establishing the chronology of the Law of Open Syllables.

Halle and Lightner have presented an analysis of the palatalization problem in the form of a set of ordered rules.[75] The segment of the grammar of Slavic which deals with this question contains the following rules:

A. $[+\text{comp}] \rightarrow \begin{bmatrix} -\text{grave} \\ +\text{strident} \end{bmatrix} \Big/ \text{—} \begin{bmatrix} -\text{cons} \\ -\text{grave} \end{bmatrix}$

B. $\begin{bmatrix} +\text{cons} \\ +\text{cont} \\ -\text{grave} \end{bmatrix} \rightarrow [+\text{strident}]$

C. $[+\text{comp}] \rightarrow [-\text{grave}] \,/\, [+\text{cons}]\, \breve{\imath} \begin{pmatrix} n \\ r \end{pmatrix} \text{—} + \breve{o}$

D. *oi̯*>*i̯o*>*ě*, *i*; monophthongization of other diphthongs ending in a semivowel;

E. $[+\text{comp}] \rightarrow [-\text{grave}] \Big/ \text{—} \begin{bmatrix} -\text{cons} \\ -\text{grave} \end{bmatrix}$

F. $\begin{bmatrix} +\text{comp} \\ -\text{grave} \\ -\text{strident} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{comp} \\ +\text{strident} \end{bmatrix}$

G. $\begin{bmatrix} +\text{cons} \\ -\text{grave} \end{bmatrix} \rightarrow [+\text{comp}] / \text{—}\, j$

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[74] Mareš, pp. 467-468.

[75] This material is taken from private communication with Professor Halle.

The morpheme structure rule [ ]→[−strident] is assumed to have applied before the operation of these rules.

The rules given above apply to the language at an early stage, when the phonological system was still close to the one inherited from Indo-European, but after the operation of the '*iurk* rule' and the '*centum-satəm* split'. At that time, the only compact consonants in the system were, presumably, the three velars *k*, *g*, *x*.

Rule A specifies that a compact consonant becomes both strident and non-grave when it is followed by a non-grave vowel or glide (i.e., that *k*, *g*, *x*>*č*, *dž*, *š* before a front vowel or *j*). This takes care of the 'first' palatalization and the palatalization of velars by a following *j*.

Rule B specifies that only consonantal non-grave continuants are to be marked as strident. When applied to the original system, this means that only *s* and *z* (if the latter was a separate phoneme at that time) are strident.

Rule C covers the progressive palatalization of velars by specifying that compact consonants are non-grave (but still non-strident) when preceded by the sequence 'consonant — long or short *i* — optional *n* or *r*', and when followed by 'morpheme boundary — long or short *o*'. Through the operation of this rule *k*, *g*, *x* become *ḱ*, *ǵ*, *x́*.

Rule D covers the monophthongization of diphthongs. The diphthong that is of interest here is *oi̯*.

Rule E describes the regressive palatalization by new front vowels (*i*, *ě*) derived from the diphthong *oi̯*. It differs from Rule C only in the environment specified for its operation.

Rule F changes *ḱ*, *ǵ*, *x́* from any source into *c*, *dz*, *s*.

Rule G makes non-grave compact consonants out of non-grave non-compact ones when they are followed by *j* (i.e., *tj*, *dj*>*t́*, *d́*).

A significant asset of this description is the fact that the same set of rules will account for all the differing reflexes of the several palatalizations, when the set is properly ordered.

Table 2 shows the ordering relations for the four sets of reflexes found in Slavic languages.

TABLE 2

The Ordering of the Palatalization Rules

East Slavic	South Slavic	Central Slovak	Other West Slavic
B	B	C	C
C	C	A	A
G	A	B,D	D
A	D		E
D	E	E	B
E	F	G	G
F	G	F	F

In all cases, the application of Rule D must come after that of Rules C and A, but before the application of Rule E.

One very significant observation which can be made from the table above is that the palatalization rules consist of a basic ordered set of rules (C-A-D-E-F), which is the same for all four subdivisions of Slavic. The remaining rules (B, G) also obey an internal ordering, since B must always precede G. The differences among the four branches of Slavic are expressed by ordering differences in the meshing of the two sets. This can be seen more clearly if the ordering table is restated as in Table 3.

TABLE 3

Ordered Sets in the Palatalization Rules

East Slavic	B	C	G	A	D	E			F	
South Slavic	B	C		A	D	E			F	G
Central Slovak		C		A	B,D	E		G	F	
Other West Slavic		C		A	D	E	B	G	F	

Both the rule for the Baudouin de Courtenay palatalization (C) and that for the diphthong palatalization (E) belong to the basic set, and it can be seen that the former always precedes the latter. Furthermore, the rules for the monophthongization of diphthongs (D) and the 'first' palatalization (A) always intervene between them.

The analysis proposed by Halle and Lightner suggests that the progressive palatalization in all cases precedes the 'first' palatalization, and that it is, therefore, the progressive palatalization which is the earliest of the three palatalizations of velars.[76] As supporting evidence, they adduce the facts that the progressive palatalization is the most difficult to define with respect to its environment, and that its operation was not strictly uniform in all instances. This, they feel, may indicate that its roots are buried deeper in history than are those of the other palatalizations, whose domain of operation seems to be quite clear and regular, since there would then be greater opportunity for intervening changes and levellings to obscure the exact nature of this palatalization.

It should be pointed out, though, that a claim for the correspondence *in toto* of the order of these rules to the order of actual events in the history of Slavic phonology is somewhat tenuous, and, in fact, is not explicitly made by Halle and Lightner. Indeed, it is highly unlikely that the order of the historical events was as radically different for the various branches of Slavic as is the order of the rules. The very uniformity and regularity of Rules A, E, and F in all the branches implies that the Slavs had not yet broken up into individual dialect-areas; but the application of Rule G before the sequence A-E-F in East Slavic — and after it in South Slavic — suggests that there was already a significant degree of dialectal differentiation at the time of the palatalization of *t*, *d* by a following *j*. But, if the additional set B-G is, for the moment, left out of consideration, there remains a very plausible-looking basic ordered set consisting of C-A-D-E-F, which is uniform for all branches of Slavic, and which could be argued to have historical significance.

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[76] In later communication, Halle has stated that the argument for placing the Baudouin de Courtenay palatalization before the 'first' palatalization is not historical, but rather depends on the treatment of velars in the environment *i-o* in certain verbal forms where apparently the palatalization does not take place as expected. He feels that the question is still open, and prefers to reserve judgement on this point.

Clearly there has been great disagreement among scholars concerning almost all aspects of the 'third' palatalization. With respect to the environment causing palatalization, at least two major theories have been proposed. These concern the reconstruction of a following *j* (*Brugmann*, *Potebnja*, *Miklosich*, *Mikkola*, *Leskien*, *Knutsson*, *Ekblom*) and of various different series of following back vowels, with or without other conditioning factors, such as stress (*Baudouin de Courtenay*, *Sobolevskij*, *Jagić*, *Hirt*, *Rozwadowski*, *Pedersen*, *Šaxmatov*, *Lehr-Spławiński*, *Trubetzkoy*, *Belić*, *Zubatý*, *van Wijk*, *Mareš*, *Bernštejn*, *Stankiewicz*, *Halle and Lightner*, etc.). In addition to a following low back vowel, *Grickat-Virk* claims that the quality of the consonant of the preceding syllable had an influence on the development of palatalization. There are other scholars, such as *Vondrák* and *Otrębski*, who have proposed that the cause of the 'third' palatalization may not have been phonological, but rather morphological. Most of the recent opinions, though, seem to favor the assumption that it was a following low back vowel which acted as a conditioning factor in combination with the preceding high front vowel.

Concerning the results of the 'third' palatalization, the vast majority of scholars suppose that they were the same as those of the 'second' palatalization. Of those treated here, only *Belić* and *Bernštejn* have found it necessary to suppose that the 'third' palatalization yielded 'soft' *c*', (*d*)*z*', *s*'/*š*', while the 'second' yielded 'hard' *c*, (*d*)*z*, *s*/*š*, and that these two series of consonants later fell together as a uniform development in all Slavic languages, despite the fact that the difference between Eastern (East and South) Slavic *s* and Western Slavic *š* is usually taken as being a phenomenon of dialectal differentiation. It does not seem necessary to assume this complicated sequence of developments, since the observed data can easily be explained without such an assumption.[77]

Four different ordering relations have been proposed. It has been said that the 'second' and 'third' palatalizations occurred simultaneously, following the 'first', (*Baudouin de Courtenay*, *Sobolevskij*); that they occurred in the order 'first', 'second', 'third' (*Belić*, *van Wijk*, *Grickat-Virk*, *Bernštejn*, *Shevelov*), that they occurred in the order 'first', 'third', 'second' (*Ščepkin*, *Lehr-Spławiński*, *Trubetzkoy*, *Knutsson*, *Vondrák*, *Ekblom*, *Machek*, *Mareš*, *Stankiewicz*); and it has recently been proposed that they may have occurred in the order 'third', 'first', 'second' (*Halle and Lightner*). All scholars agree that the 'second' palatalization occurred after the 'first'.

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[77] See Chapter IV below.

The first of these ordering proposals is supported by only two of the scholars whose views are treated here — and both of these belong to the nineteenth century. It is clear that more recent investigators differentiate the time of the 'third' palatalization from that of the 'second'. The order '1-2-3' does not find a great deal of support, and here, too, the views are primarily not those of recent writers. There is a great deal of support for the order '1-3-2', both from contemporary scholars and from those of the past, and, at first glance, this view seems to be the most reasonable one. The suggestion that the palatalizations occurred in the order '3-1-2' is very recent, and has been proposed not as a historical solution to the problem, but rather as a device for synchronic description.

IV

AN INTERPRETATION OF THE RELATIVE CHRONOLOGY

From the foregoing discussion, it should be clear that a definitive solution for the problem of the progressive palatalization has not been reached. Scholars have been unable to agree on the place of the progressive palatalization in the relative chronology of Slavic, on the environment which produced it, on the reflexes it yielded, and even on the corpus of forms which show its reflexes (e.g., there is disagreement about whether such forms as *rьci* 'say (imper.)' are examples of the progressive or of the second regressive palatalization, depending on which is said to have occurred earlier.)

The last of these problems will resolve itself once the relative chronology of the two palatalizations is established. As for assuming a difference in the reflexes of the two palatalizations, there seems to be little basis or need for doing so, since the arguments discussed below are able to account neatly for the data. Moreover, it seems somewhat strained to assume, as *Bernštejn* does, that a velar, palatalized by a following front vowel, should have become from the beginning a functionally and phonetically unpalatalized consonant.

The phonological conditions for the progressive palatalization present a more difficult problem. None of the descriptions of the environment of the progressive palatalization seems to be wholly satisfactory. The environment preceding the velar is clear enough, but the conditions required after the velar still seem to be quite obscure.

Stankiewicz' condition concerning low back vowels does not seem to be sufficient, even granting the fact that in such parallel formations as *-(n)ica/-(n)ikъ*, *-ьka/-ьcь*, *-ьce*, etc., the morphophonemic alternation of palatalized and unpalatalized velars plays a grammatical role. Stankiewicz' condition accounts for many instances of lack of palatalization (e.g., *kъnęgyni*, *vьrxъ* 'summit', etc.) where the following vowel is a high one — *ū* or *ŭ* (Slavic *y* or *ъ*); but it fails to account for several cases where palatalization would be expected but is not found, for example, certain words with the prefix *pri-*, (*prikazati* 'to order', *prigoniti* 'to arrive quickly', *prixoditi* 'to come') and the first person singular, dual and plural of the sigmatic aorist of *i*-stem verbs. These latter forms deserve some discussion in this context. The *x* in these forms of the aorist arises from *s* after *i*, *u*, *r*, *k* and before a vowel. This *x* is phonologically justified only in the cases of *i*-stem verbs, and a few other verbs with stems ending in either *u*, *r*, or *k* 'e.g., **rěk-ti* 'to say': 1 sg. aor., **rěk-s-om*>**rěk-x-om*>**rěk-xъ*>*rěxъ*.) The *x* in the aorist of other verbs can be attributed only to some sort of analogy which generalized the ending *x* for the forms of the aorist where the *-s-* was followed by a vowel. In the third person plural, where a front vowel followed, *x* later developed into *š* by the 'first' palatalization. The result was that, after the palatalizations had all taken place and the forms of the aorist became stabilized, the aorist could have any one of four different markers — # for the second and third persons singular, *x* for all the first person forms, *s* for the second and third persons dual and the second person plural, and *š* for the third person plural. However, in all three first person forms of the sigmatic aorist of *i*-stem verbs (and only in the first person forms), we find *Stankiewicz*' condition for the progressive palatalization — e.g., **xvali-x-om*, **xvali-x-ově*, **xvali-x-omos* (from *xvaliti* 'to praise'). Likewise, verbs whose stems end in a velar preceded by an appropriate front vowel meet the condition for the progressive palatalization in the first person forms of their root aorists — e.g., **dvig-om*, **dvig-ově*, **dvig-omos* (from *dvignǫti* 'to move'). Yet, in none of these cases do we observe the slightest trace of the progressive palatalization. Furthermore, the argument for analogy within the paradigm does not hold here, since in the case of verbs like *dvignǫti* the stem-final velar does undergo the 'first' palatalization in all forms of the root aorist except the first person forms and the third person plural, and in the case of verbs like *xvaliti*, the sigmatic aorist already has three markers other than *x*, one of which is *s*. If anything, this situation in the sigmatic aorist should have facilitated the operation of the progressive palatalization, in order to reduce the number of aorist markers by combining the *x*-forms with the *s*-forms. Since the *i*-stem verbs were apparently the leaders in introducing *x* into the aorist forms, there seems to be no reason that they could not have been the leaders in eliminating the *x* when the phonological conditions warranted it.

Mareš' formulation of the 'third' palatalization is quite interesting and explains certain otherwise puzzling facts of this palatalization. There are, however, some weak points in the solution that he has proposed. His formulation of the environment is well-justified, as far as it goes, although it still does not explain the reason for the lack of palatalization in the first person forms of the sigmatic aorist, or in words whose roots begin with the sequence velar + low back vowel, and which are compounded with the prefix *pri-* (e.g., *prikazati*, *prigoniti*, *prixoditi*). These latter examples, though, can quite convincingly be attributed to analogy with the other words built from the same root, either with or without a prefix.

However, it does not seem either necessary or plausible to assume a complicated assimilation of vowels across an intervening velar, as Mareš does. It seems rather contrived to claim that this assimilation of vowels took place only when the two vowels were differentiated both by the high-low opposition and by the front-back opposition, and that the assimilation did not take place when the vowels in question were dissimilar with respect to only one of these qualities.

Furthermore, Mareš' assumption is tantamount to making a claim that Slavic had developed or was developing vowel harmony, and such a claim could not be supported from other evidence in the language.

An even more salient point is that, of all the consonants, the velars should have been least likely to have favored this sort of assimilation, while the labials should have constituted less of an obstacle and might conceivably even have encouraged it. In the transition from a high front vowel to a velar consonant, the tongue must be retracted over a rather long span; if a back vowel follows the velar, then the tongue can remain close to the position necessary for the velar. If, however, a front vowel follows the velar, then the tongue must be moved forward again, and must come relatively close to the position for the first front vowel; therefore, the articulatory effort would be considerably increased. In the case of labials, however, the tongue does not participate in the articulation at all, and so it is quite reasonable to assume that the position of articulation of the first vowel might influence the position of articulation of the second. In any case, though, it seems unlikely that such a change should have taken place only when a velar, and not some other consonant, intervened.

It is certainly not necessary to seek so complicated an explanation for the progressive palatalization. As long ago as 1894, *Baudouin de Courtenay* pointed out many contemporary cases of the influence of preceding front vowels upon velars, both in Slavic languages and in German.[1] It is clear, at least from the example of German that this phenomenon need not necessarily be related to the quality of the following vowel, since it occurs both in word-final position of isolated and uninflected words and before consonants.

Finally, it is necessary to take issue with *Mareš*' claim that the operation of the 'third' palatalization was consistent ("se provedla důsledně"), given the environment that he proposes, since he has not explained the lack of palatalization in such forms as R. *старик* 'old man', *жених* 'bridegroom', *земляника* 'strawberry', *-ник*, and the like.

Perhaps the most significant point in Mareš' analysis, though, from the point of view of the present study, is that he introduces considerations of the syllable and of *syllabic synharmony* into his discussion. He is quite correct in doing so, since these considerations are essential to an understanding of palatalization in general. The relation of the progressive palatalization to the nature of the syllable and to syllabic synharmony will be discussed later in this chapter.

Halle's and Lightner's condition that the velar is palatalized when preceded by an appropriate front vowel and followed by the sequence 'morpheme boundary + *o*' accounts for the reason that such forms as *prikazati*, *prigoniti*, *prixoditi* do not undergo palatalization, since the morpheme boundary is lacking, but still fails to account for numerous forms which remain with unpalatalized velars, such as the aorist forms cited above.

The argument that the following environment consisted of *j* + back vowel seems questionable, since the reconstruction of *j* in those forms which underwent progressive palatalization is at best tenuous and since velars followed by *j* regularly show reflexes identical with those of the 'first' palatalization.

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[1] Baudouin de Courtenay, "Einiges über Palatalisierung", pp. 46-47 (p. 51 in this text). See also p. 17 above.

Whereas it seems true that, in all instances of the progressive palatalization which can be recognized as such today, a following low back vowel seems to be a necessary condition for palatalization of the velar, it does not at all seem true that this is a sufficient condition for the occurrence of palatalization. Furthermore, many of the cases where palatalization did not take place do not lend themselves to explanation by analogy or by morphophonemic differentiation of suffixes.

It is obvious from the foregoing discussion that the environmental conditioning factors for the progressive palatalization have not yet been unambiguously identified.

With respect to the place of the progressive palatalization in the relative chronology of Slavic, there are several inferences which can be made.

A survey of the most important arguments concerning the relative chronology of the progressive palatalization has been presented in Chapter III. Of these views, it seems that the most correct is the one proposed by Halle and Lightner, namely, that the progressive palatalization antedates not only the so-called 'second' palatalization, but also the so-called 'first'. However, some discussion of their arguments in greater detail is warranted here. Although Halle and Lightner hesitate to claim historical validity for this ordering, they have two main arguments to support their view:

1. that we understand less about the environment and workings of the progressive palatalization, and that it must, therefore, be buried deeper in history;
2. that when the palatalizations are presented in terms of ordered rules, it 'works' when the progressive palatalization is put ahead of the others, and it 'does not work' when a different order is assumed.

Both of these arguments have merit, but there are several factors causing hesitation in accepting them. For the first point, it has been argued quite convincingly that the lack of uniformity of the progressive palatalization indicates that it is a comparatively late development, and that its operation was in some way interrupted before it had come to its natural completion. Those who hold this view infer that the 'first' and 'second' palatalizations must therefore both belong to the time prior to the progressive palatalization, when the palatalizations were still continuing uninterrupted. Thus, these same data can be used with a reasonable amount of force to support either side of the argument.

The second argument is somewhat stronger, and more to the point. However, it is difficult to accept this argument wholeheartedly as a historical explanation. To many an argument from descriptive adequacy for generative purposes seems completely *ad hoc*, and, although the conclusion may be correct, the argument is certainly far from being an indisputable proof. It would be useful, then, to try to find historically-oriented evidence supporting this point of view — evidence of a type which will be acceptable to those who do not believe in ordered rules as well as to those who do.

One such piece of evidence can be found in a comparison of the declensional paradigms of those nouns ending in a velar which underwent progressive palatalization — e.g., nouns of the type *ovьca* 'sheep', *otьcь* 'father', *lice* 'face' — with the paradigms of nouns ending in a velar which did not undergo this palatalization — e.g., *sluga* 'servant', *drugъ* 'friend', *věko* 'eyelid' — and with the paradigms of ordinary 'hard' and 'soft' stem nouns — e.g., *žena* 'woman', *zemlja* 'land', *plodъ* 'fruit', *końь* 'horse', *selo* 'settlement', *polje* 'field'.[2]

It is often asserted that nouns of the type *ovьca, otьcь, lice* (originally *a*- or *o*-stem nouns) 'changed' their declensional classes after undergoing progressive palatalization, and became *ja*- or *jo*-stem nouns.[3] This formulation is incorrect, as can be seen from the fact that nouns like *otьcь* retain the *o*-stem vocative singular in *-e*, instead of 'acquiring' the *jo*-stem vocative singular (borrowed from the *u*-stems) in *-u*. Moreover, the formulation is misleading, in that it implies that the endings of the *ja*- or *jo*-stems were acquired by these nouns through some sort of analogy with the other 'soft' stems. More careful scholars point out that the change which occurred in the declension of nouns with progressive palatalization was simply part of the regular change of *o* to *e*, *ъ* to *ь*, and *y* to *i* which took place after *j* and palatal consonants. This enables us to establish certain facts of relative chronology. Partial paradigms for several nouns of the different classes and types affected, together with the derivations of their endings, are given below:[4]

a/ja-stems

Sing.: Dat. *-ā-ei̯>*-ãi̯>-ě; *-jā-ei̯>*-jãi̯>*-jei̯>-ji
Loc. *-ā-i>*-āi̯>-ě; *-jā-i>*-jāi̯>*-jei̯>-ji
Voc. *-ă>-o; *-jă>*-jo>-je
Dual: N-A. *-ăi̯>-ě; *-jăi̯>*-jei̯>-ji
Plural: N-A. *-ā-ns>*-ons>-y; *-jā-ns>*-jons>*-jens>-ję
(Accusative plural borrowed into nominative plural.)

Sing.:	Nom.	žena	sluga	zemlja	ovьca
	Dat.	ženě	sluzě	zemĺi	ovьci
	Loc.	ženě	sluzě	zemĺi	ovьci
	Voc.	ženo!	slugo!	zemlje!	ovьce!
Dual:	N-A.	ženě	sluzě	zemĺi	ovьci
Plural:	N-A.	ženy	slugy	zemlję	ovьcę
	Loc.	ženaxъ	slugaxъ	zemljaxь	ovьcaxъ

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[2] This argument is discussed by Lehr-Spławiński and Pedersen, cf. p. 18 above.

[3] Cf. Bernštejn, "В результате третьей палатализации *otьcь* стал склоняться по мягким основам" (p. 209).

[4] The derivations of these endings are discussed in Bielfeldt, pp. 127-134, and Hans Krahe, *Indogermanische Sprachwissenschaft*, Sammlung Göschen, LXIV (Berlin, 1959), II, pp. 12-30.

o/jo-stems

Masculine:

Sing.: Loc. *-o-i>*-oi̯>-ě; *-jo-i>*-joi̯>*-jei̯>-ji
Voc. -e; *jo*-stems have -u borrowed from *u*-stems
Plural: Nom. *-o-i>*-oi̯>-i; *-jo-i>*-joi̯>*-jei̯>-ji (endings borrowed from pronominal declension)
Acc. *-o-ns>*-ons>-y; *-jo-ns>*-jons>*-jens>-ję
Inst. *-o-ois, which developed into -y; *-jo-ois>*-joi̯s>*-jei̯s>-ji
Loc. *-o-i-sŭ>*-oi̯xъ>-ěxъ; *-jo-i-sŭ>*-joi̯xъ>*-jei̯xъ>-jixъ

Sing.:	Nom.	plodъ	drugъ	końь	otьcь
	Loc.	plodě	druzě	końi	otьci
	Voc.	plode!	druže!	konju!	otьče!
Plural:	Nom.	plodi	druzi	końi	otьci
	Acc.	plody	drugy	konję	otьcę
	Inst.	plody	drugy	końi	otьci
	Loc.	ploděxъ	druzěxъ	końixъ	otьcixъ

Neuter:

Sing.: Loc. (like Masculine)
Voc. *-om>-o; *-jom>*-jo>-je
Dual: N-A. *-o-i>*-oi̯>-ě; *-jo-i>*-joi̯>*-jei̯>-ji
Plural: Inst. (like Masculine)
Loc. (like Masculine)

Sing.:	Nom.	selo	věko	polje	lice
	Loc.	selě	věcě	poĺi	lici
	Voc.	selo!	věko!	polje!	lice!
Dual:	N-A.	selě	věcě	poĺi	lici
Plural:	Inst.	sely	věky	poĺi	lici
	Loc.	seléxъ	věcěxъ	poĺixъ	licixъ

In all cases where *a*- and *o*-stems have *ě*, *ja*- and *jo*-stems have *i*, and both these endings go back ultimately to an original *oi̯/ai̯*. In citing the results of the monophthongization of *oi̯* and *ei̯* diphthongs, it is said that *ei̯* regularly became *i* in all positions, and that *oi̯* regularly became *ě* in stems, but became either *ě* or *i* in desinences, depending on some conditioning factor which is left unspecified, but which is suggested to have been connected with suprasegmental phenomena, especially tone. In actual fact, this vague assumption need not be made. It is clear from the data that the progressive palatalization must have taken place before the monophthongization of diphthongs and before the change of back vowels to front vowels after *j* and palatal consonants. This last development, moreover, must also have occurred before the monophthongization of diphthongs.

If the progressive palatalization and the change of back vowels to front vowels after palatal consonants are assumed to have taken place before the monophthongization of diphthongs, then most instances of *i* from *oi̯* can be quite regularly explained as having come from the intermediate stage *ei̯* (e.g., **otьkoi̯>*otьḱoi̯>*otьḱei̯>*otьḱi> otьci*, as opposed to **věkoi̯>*věkě>*věḱě>věcě*). This assumption regularizes most of the supposedly exceptional *i*-reflexes of *oi̯*; clearly points out that the 'soft' endings were not somehow acquired by *otьcь*-type nouns as has been suggested, but were, rather, natural phonological developments quite in keeping with the rest of the system; and eliminates the necessity for postulating the change of *-iḰě* to *-iḰi*, which can be motivated only morphologically, and not phonologically. The morphological explanation of this change, moreover, is faced with the necessity of explaining why *-cě>-ci* in words like *otьcь*, but remains *-cě* in words like *věko*. It is at this point that some make reference to a purported shift in declensional class, or assume (as does *Bernštejn*)[5] that the results of the 'second' and 'third' palatalizations were originally different, with the former yielding a set of 'hard' reflexes, *c*, *dz*, *s*/*š*, and the latter yielding 'soft' *c'*, *dz'*, *s'*/*š'*. The assumption that the changes in the endings of *otьcь*-type nouns are due to the change of *o* to *e* after a palatalized consonant also explains why in the masculine *o*-stems the vocative of these nouns has retained the *o*-stem ending *-e*, instead of acquiring the *jo*-stem ending *-u*, since there was no reason for *e* to be changed after a palatalized consonant.

The foregoing assumption leaves only two major categories of exceptions to the rule that *oi̯>ě*: the singular of the imperative mood of *e/o*- and *ne/no*-stem verbs and the nominative plural of masculine *o*-stem nouns.

There are several reasons that the imperatives of *e/o*- and *ne/no*-stem verbs might show the ending *-i*. The second person singular of the imperative in Indo-European should originally have had no ending. The form ended simply in the exposed thematic vowel, which would have appeared in the *e*-grade (cf. vocative singular of *o*-stem nouns).[6] At some point, though, the original imperative seems to have been lost, and the optative form in *-oi̯-* is presumed to have been taken over as the imperative. For *i*-stem and athematic verbs, the optative ending appeared as *-ī-* before consonants and *-i̯-* before vowels.[7]

A possible explanation of the *-i* in the Slavic imperative singular of *e/o*- and *ne/no*-stem verbs is that it may have been developed here by analogy from other classes of verbs. *-i* is a perfectly well-justified reflex for the optative ending of *je/jo*-stem verbs (**-joi̯>*-jei̯>-ji*) and athematic verbs (**-#i = *-#jь*), and for either the optative or the original imperative of *i*-stem verbs (**-i* in both cases).[8]

An explanation for the presence of *-i* rather than *ě<oi̯* in the nominative plural of

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[5] Bernštejn, p. 201. See also p. 27 above.

[6] See A[ntoine] Meillet, *Introduction à l'étude comparative des langues indo-européennes*, 8th ed., (*Alabama Linguistic and Philological Series*, III) (University, Alabama, 1964), pp. 235-236; Krahe, pp. 74-76.

[7] See Meillet, pp. 224-225.

[8] See discussion of this subject in Bielfeldt, pp. 206-209; Krahe, pp. 72-74.

masculine *o*-stems is harder to find, but this may have developed partly under the influence of the masculine *jo*-stems (**-joi̯>*-jei̯>-ji*).[9]

It seems clear, then, that the progressive palatalization took place before the monophthongization of diphthongs, and, hence, before the palatalization caused by new front vowels derived from diphthongs.

Let us now return to the argument discussed in Chapter II in connection with *syllabic synharmony*. Slavic underwent a period in which the syllable apparently constituted the basic unit of word-construction, and, in connection with this, there was a rigid rule that palatality or lack of palatality had to be uniform for all segments in a given syllable. This restriction did not, however, apply across syllable boundaries, at least not with any great degree of regularity. The only recognized regular instances that we have of influence of one syllable upon another are the examples of the progressive palatalization, which took place only after a very restricted group of front vowels. Had this influence applied across syllable boundaries to any great extent, Slavic would have had, at least for a time, vowel harmony, such as is found in the Finno-Ugric and Altaic languages. There is no evidence in Slavic to support such an assumption.

In order to explain how a vowel could have caused palatalization of a consonant following it, and belonging to a different syllable, we must assume that the syllable was not the basic unit of word-construction, i.e., that the principle of syllabic synharmony was not operative at the time of the development in question. This means that the progressive palatalization must have occurred either before or after the time of syllabic synharmony. However, it has already been established that the progressive palatalization occurred before the monophthongization of diphthongs; this latter process, in turn, had to have occurred before the end of syllabic synharmony, since it caused the palatalization of preceding velars. Therefore, the progressive palatalization could not have occurred after the period of syllabic synharmony, and must have occurred before it. As added evidence for this conclusion, it can be pointed out that the change of back vowels to front vowels, which took place after the consonants palatalized by the progressive palatalization, must also belong to the period of syllabic synharmony, and so for this reason, too, the progressive palatalization would have to have preceded syllabic synharmony, rather than following it.

Consider, also, in this context the word *igo*. As *Trubetzkoy* and *Mareš* have pointed out, the phonological shape of this word suggests that the change of back vowels to front vowels after *j* took place after the end of the progressive palatalization, since otherwise we would expect nom. sg. **jugom>*jъgom>*jьgo(m)>*jьzo>*jьze>*ize*. This form, however, does not exist. In the nominative singular, only the form with the velar is known — *igo*.

The 'first' palatalization of velars is generally considered to mark the beginning of the period of syllabic synharmony. In any event, it must certainly belong to this period, and so we are left with the conclusion that the progressive palatalization must have preceded the 'first' palatalization, too. With the 'first' palatalization, the period of syllabic synharmony began, causing the change of back vowels to front vowels after _j_ and palatalized consonants.

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[9] Bielfeldt says simply, "Dieser Diphthong [*oi* im Nom. Pl. Mask. der *o*-Stämme] wurde im Slavischen zu *i*," (p. 128).

Based on the foregoing arguments, the following partial relative chronology can be suggested for Slavic:

1. PROGRESSIVE PALATALIZATION: _k_, _g_, _x_>_ḱ_, _ǵ_, _x́_ in the appropriate environment. Very likely, velars before front vowels or _j_ tended to develop similar fronted allophones. This leads to

2. SYLLABIC SYNHARMONY: uniformity of palatality within a syllable, firmly established through the operation of the

3. FIRST REGRESSIVE PALATALIZATION (PALATALIZATION OF VELARS FOLLOWED BY ORIGINAL FRONT VOWELS OR _j_): _k_, _g_, _x_ and _ḱ_, _ǵ_, _x́_>_č_, (_d_)_ž_, _š_ when followed by original front vowels or _j_. Syllabic synharmony further causes the

4. CHANGE OF BACK VOWELS TO FRONT VOWELS AFTER _j_ OR PALATAL CONSONANTS: _o_>_e_, _ъ_>_ь_, _y_>_i_. It is at this time that loc. sg. _*otьḱoi_>_*otьḱei_, thus avoiding the first regressive palatalization. Voc. sg. _*otьḱe_, however, would already have become _otьče_ by the first regressive palatalization. After the first regressive palatalization ceased operating, there occurred the

5. MONOPHTHONGIZATION OF DIPHTHONGS: _ei̯_ (including _ei̯_<_oi̯_)>_i_, _oi̯_>_ě_. These new front vowels, developed still within the period of syllabic synharmony, caused the

6. SECOND REGRESSIVE PALATALIZATION OF VELARS: _k_, _g_, _x_>_ḱ_, _ǵ_, _x́_ before new _i_ and _ě_, with no change in the vowel. Still before the end of syllabic synharmony,

7. _ḱ_, _ǵ_, _x́_>_c_', (_d_)_z_', _s_'/_š_': this change is relatively late, and shows some of the first signs of dialectal differentiation within Slavic. Sometime after this development, syllabic synharmony is ended by the

8. CHANGE OF _ě_ TO _a_ AFTER _j_ AND OTHER PALATAL (AS DISTINCT FROM PALATALIZED) CONSONANTS: this process must follow the development of _ḱ_, _ǵ_, _x́_ to _c_', (_d_)_z_', _s_'/_š_', since _ě_ after these consonants does not change to _a_ (cf. O.R. _дорозѣ_ 'road (loc. sg.)', R. _седой_ 'gray (-haired)'; SCr. _дрȁзи_ 'ravine (loc. sg.)', _сȇд_ (_сȕјед_, _сúд_); Cz. _dráze_, _šedý_; Pol. _drodze_. _a_ in Pol. _szady_ is due to a later, specifically-Polish sound change). The change of _ě_>_a_ marks the end of syllabic synharmony; like the previous development, it yields differing results in certain of the Slavic languages, and thus shows early signs of the coming breakup of Slavic linguistic unity (cf. _*kričěti_ 'to shout'>O.C.S. _kričati_, R. _кричать_, SCr. _кри́чати_, but Pol. _krzyczeć_).

This chronology is reflected in Tables 4 and 5, showing the development of velars and the development of sample nominal paradigms, respectively.

With respect to the absolute chronology of these developments, not too much can be said. We know that the progressive palatalization must have been operative at or after the time of the borrowing of such words as _kъnędzь_, _pěnędzь_ 'penny' from Germanic _*kuning-_, _*penning-_. These borrowings, in turn, cannot have been made until about the second or third century, roughly the time when the Slavs first came into contact with the migrating Goths.[10] Further, it is unlikely that the progressive palatalization was operative as late as the middle of the ninth century, since the name of the Varangians (**varing-*) was taken into Russian as *varęgъ*, without the progressive palatalization of *g* to *z* in the same Germanic suffix as above. This name in the locative singular and nominative plural does show second regressive palatalization (e.g., nom. pl. *varęzi*), but this development could have been by analogy to the other nouns ending in a velar. Compare, also, the names *Ольга* and *Игорь*, which were borrowed after contact with the Varangians, and which have unpalatalized velars.

TABLE 4

The Development of the Velars

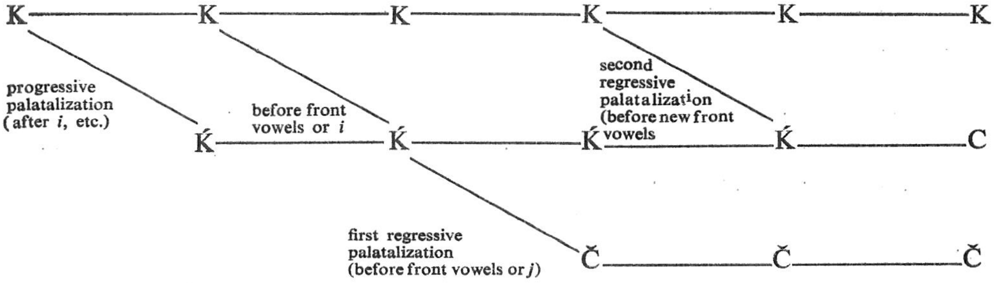
K
K
K
K
K
K
progressive palatalization (after *i*, etc.)
Ḱ
before front vowels or *i*
Ḱ
Ḱ
second regressive palatalization (before new front vowels
Ḱ
C
first regressive palatalization (before front vowels or *j*)
Č
Č
Č

TABLE 5

Selected Stages in the Development of Certain Nominal Paradigms

1. Nom. sg.	otĭk-o-s	drou̯g-o-s	plod-o-s
Loc. sg.	otĭk-o-oi̯	drou̯g-o-oi̯	plod-o-oi̯
Voc. sg.	otĭk-e	drou̯g-e	plod-e
2. Nom. sg.	otĭḱos	drou̯gos	plodos
Loc. sg.	otĭḱai̯	drou̯gai̯	plodai̯
Voc. sg.	otĭḱe	drou̯ǵe	plode
3. Nom. sg.	otĭḱo(s)	drou̯go(s)	plodo(s)
Loc. sg.	otĭḱai̯	drou̯gai̯	plodai̯
Voc. sg.	otĭče	drou̯že	plode
4. Nom. sg.	otĭḱĭ	drou̯gŭ	plodŭ
Loc. sg.	otĭḱei̯	drou̯gai̯	plodai̯

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[10] *Lehr-Spławiński*, in "Z dziejów języka prasłowiańskiego", *Езиковедски изследвания в чест на академик Стефан Младенов* (София, 1957), 255-261, says, "Przejawy spółgłosek *c*, *dz*, *ś* wraz z monoftongizacją dyftongów ukazują się w szeregu zapożyczeń prasłowiańskich z języka germańskich Gotów, które mogły się dostać do języka prasłowiańskiego nie wcześniej jak w II-III wieku naszej ery" (p. 259). See also his "Próba datowania tzw. II palatalizacji", pp. 381-383, and especially, "Wnikanie [zapożyczeń gockich] do prasłowiańskiego zasobu słownikowego ... przypada na II-IV wiek n.e." (p. 382).

Voc. sg.	otĭče	drou̯že	plode
5. Nom. sg.	otĭḱĭ	drugŭ	plodŭ
Loc. sg.	otĭḱi	druǵě	plodě
Voc. sg.	otĭče	druže	plode
6. Nom. sg.	otĭcĭ	drugŭ	plodŭ
Loc. sg.	otĭci	druʒě	plodě
Voc. sg.	otĭče	druže	plode

Van Wijk has asserted that the Proto-Slavic period was characterized by a rather long period of stability (at least 2000 years), followed by two or three centuries of rapid and almost chaotic change, which brought about the breakup of Slavic linguistic unity.[11] He places the beginning of this period of change around the fourth century A.D. *Lehr-Spławiński* has expressed reservations about Van Wijk's dating of this period, but has indicated that he is in agreement with the assumption of a period of great change lasting for about 200 years.[12] Further, he agrees that the migrations of the Slavic tribes were probably responsible for the breakup of Slavic linguistic unity, and that these migrations are completely-documented historical facts of the beginning of the sixth century.[13]

From the foregoing discussion, it seems reasonable to place the progressive palatalization at or near the beginning of the period of great change, and to place the period as a whole somewhere between the second or third and the ninth centuries. In addition, the historical facts of the Slavic migrations during the sixth century lend support to the claim that at least part of the period of change was taking place at that time.[14]

Further evidence for narrowing the span to the time between the fourth and ninth centuries can be adduced from the well-known argument concerning the dating of the metathesis of liquids: metathesis must have been in process after the time that Charlemagne (742-814) became known to the Slavs, since his name (Karl) came to be used among them as the word for 'king', and this word shows the various reflexes of the elimination of **tort* sequences — cf. R. *король*, SCr. *крâљ*, Blg. *крал*, Pol. *król*, Cz. *král*, etc. Furthermore, the process of metathesis must have occurred close to the end of the Common Slavic period and of the period of change suggested by Van Wijk and Lehr-Spławiński, since the various reflexes show considerable dialectal differentiation among Slavic languages, and since there are even some Slavic languages which show traces of unmetathesized **tort* or **tert* groups (some Polabian dialects). In addition, the assumption that the major changes in Common Slavic took place rather late finds support in the fact that attested Old Church Slavonic forms (tenth century and later) are quite close to what we reconstruct for Proto-Slavic, and thus may follow closely upon the major sound changes of the breakup of Common Slavic.

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[11] N[ikolaas] van Wijk, *Les langues slaves: de l'unité à la pluralité*, (= *Janua linguarum, series minor*, 2), 2nd ed., ('s-Gravenhage, 1956), pp. 21-22; 27.

[12] Lehr-Spławiński, "Z dziejów języka prasłowiańskiego", p. 255.

[13] Lehr-Spławiński, pp. 255-256.

[14] A lexicostatistical study of the differentiation of the Slavic languages has been made by Mirek Čejka and Arnošt Lamprecht. In "K otázce vzniku a diferenciace slovanských jazyků", *Sborník prací filosofické fakulty brněnské university*, XII (1963), Řada jazykovědná (A), No. 11, 5-20, they report that the principal differentiation of the Slavic languages took place between the eighth and twelfth centuries.

Therefore, if van Wijk's theory about "two centuries of rapid change" is correct, the progressive palatalization may have occurred as late as the fifth century.

This supposition is supported also by Ekblom's opinion that all the palatalizations occurred between 500 and 850. According to him, the 'first' palatalization took place near the beginning of this period, and the progressive palatalization took place only slightly later.[15] However, no clear-cut evidence for establishing the absolute chronology of the progressive palatalization has yet appeared.

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[15] Ekblom, "Die frühe dorsale Palatalisierung", pp. 75-76. See also p. 24 above.

APPENDIX*

SLAVISCHE *c (t̂s)*, *ʒ (d̂z)*, *s* AUS DEN UNTER DEM EINFLUSSE VORANGEHENDER VOKALE PALATALISIERTEN *k*, *g*, *ḩ (ch)*

by J. Baudouin de Courtenay

Um das Erscheinen eines *c* oder *ʒ* (*dz*) [resp. *z*] in den slavischen **līcé* (Antlitz), **klīcátī* (rufen), **otьcì* (Vater), **dvīʒátī* (bewegen), **sęʒátī* (reichen) usw. zu erklären, greift man gewöhnlich zu dem dienstfertigen *j* und leitet solche Wörter ganz einfach aus **likjo*, **klikjati*, **otьkjъ*, **dvigjati*, **sęgjati* ... Dazu aber giebt uns keine Logik Recht. Denn erstens entstanden aus *kj*, *gj*, *ḩj* (*ki̯*, *gi̯*, *ḩi̯*) im Slavischen *č*, *ž*, *š*, und zweitens findet man in der slavischen Morphologie keinen Anlass, in den genannten Formen ein *j* (*i̯*) anzunehmen. Potebnjas Vermutung, man solle zur Erklärung des Unterschiedes zwischen *č*, *ž* und *c*, *ʒ* (*dz*) [beide aus *kj*, *gj*] doppeltes *j* annehmen[1], halte ich für vollkommen misslungen.

Versuchen wir mit Hülfe von den der unmittelbaren Beobachtung zugänglichen Thatsachen die Vergangenheit zu beleuchten.

Bekanntlich unterscheiden sich in der jetzigen deutschen Aussprache in den Verbindungen einerseits *ach*, *ag*, *ak*, andererseits *ich*, *ig*, *ik* u. ä., nicht nur die Vokale, sondern, im Zusammenhange damit, auch die folgenden Konsonanten.

In der gemeingrossrussischen Aussprache lautet das *k* der Wörter *staŕík* (старикъ, Greis) *staŕiká* (старика), *ṕečńík* (печникъ, Töpfer) *ṕečńiká* (печника) usw. etwas anders, als das *k* der Wörter *rybák* (рыбакъ, Fischer) *rybaká*, *kabák* (кабакъ, Schenke) *kabaká* usw. Es ist zwar, so zu sagen, ein im Keime begriffener, ein minimaler Unterschied, seine Existenz aber lässt sich keineswegs leugnen. Sonst hört man in einigen Teilen des grossrussischen Sprachgebietes *staŕiḱá*, *pečńiḱá*, mit einem deutlich palatalen *ḱ*.

In dem Wjatkaschen Dialekt, wie auch in einigen anderen grossrussischen Dialekten, spricht man: *ḩoźájḱä*, *trójḱä* ..., *tóĺḱä*, *kufáŕḱä*, *góŕḱä* ..., *ṕéčḱä*, *dóčḱä* ..., den gemeinrussischen *ḩăźájka* (хозяйка, Wirtin), *trójka* (тройка, Dreigespann), *tóĺkă* (только, nur), *kuḩárka* (кухарка, Köchin), *góŕka* (горька, bittere), *ṕéčka* (печка, Ofen), *dóčka* (дочка, Töchterlein) ... entsprechend.

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* From J. Baudouin de Courtenay, "Einiges über Palatalisierung (Palatalisation) und Entpalatalisierung (Dispalatalisation)", *IF*, IV (1894), 45-57.

[1] Vgl. u. a. "Über einige Erscheinungsarten des slavischen Palatalismus" (Archiv für slavische Philologie von Jagić, III, 1879, S. 361 und sonst).

Eine ganz analoge Erscheinung bietet uns das ‘Schopsche’ Gebiet auf der Balkanhalbinsel, wo wir *majťa* (мајћа, Mutter), *devojťa* (девојћа, Mädchen) u.ä. anst. *majka*, *devojka*[2] usw. finden.

In allen diesen Fällen wurden hinterlinguale (‘gutturale’) Konsonanten unter dem Einflusse vorangehender Palatalen palatalisiert und als palatalisierte weiter degeneriert.

Auf diese und viele andere Beobachtungen gestützt, führe ich den ersten Antrieb zur Veränderung von *k*, *g* in *c*, *ʒ* in den anfangs genannten gemeinsamslavischen Formen *līcé*, *dvīʒấtī* ... auf die Einwirkung der palatalen, *i*-artigen Verengung der Mundhöhle bei den vorangehenden Sonanten. Als solche Sonanten müssen angesehen werden: *ĭ*, *ī*, *n̥*$_i$ (d. h. ein silbebildendes *n* mit einer gleichzeitigen extremen Verengung der Mundhöhle zwischen der mittleren Zunge und dem Gaumen) oder genauer *ŋə*$_i$, *r̥*$_i$, *l̥*$_i$.

Von einer ähnlichen Einwirkung des konsonantischen *i̯* (in den Diphthongen *ei̯*, *oi̯*, *ai̯*) kann keine Rede sein, da sich damals die Diphthonge *ei̯*, *oi̯*, *ai̯* schon gewiss in lange Vokale *ī* und *ē* vereinfacht haben, wie auch sonst überhaupt alle geschlossenen Silben beseitigt wurden.

Warum aber blieben die parallelen Formen, wie *líkъ* (Bild), *klĭ́kātī* (rufen), *dvĭ́gātī* usw. von dieser Einwirkung vorangehender palataler Sonanten verschont?

Die Ursache dieser Unterscheidung sehe ich in der verschiedenartigen Verteilung der Wortakzentuation. Analog dem die germanische Lautverschiebung komplizierenden ‘Vernerschen Gesetz’, formuliere ich meine Erklärung so: Wenn der Akzent auf der folgenden Silbe ruhte, dann wirkte der palatale Sonant auf den folgenden hinterlingualen Konsonanten dermassen, dass er ihm eine individuelle Palatalität verlieh; in entgegengesetztem Falle war diese Wirkung zu schwach, um in dem betreffenden Konsonanten eine stetige, unabhängige, individuelle Palatalität zu entwickeln.

Offenbar begünstigte die Zugehörigkeit des hinterlingualen Konsonanten zu einer und derselben Silbe mit dem hauptbetonten Sonanten des Wortes die Stärkung der in ihm, unter dem Einflusse vorangehender Sonanten, keimenden Palatalität.

Selbstverständlich kann in den eine morphologisch monotone Akzentuation bietenden slavischen Sprachgebieten (im Slovakischen, Czechischen, Serbischen, Polnischen, Kaschubischen) von einer Bewahrung alter Betonungsverhältnisse keine Rede sein. Aber selbst da, wo die morphologisch bewegliche Akzentuation ihre volle Anwendung findet (wie z. B. im Russischen), haben die Wirkungen der ‘Analogie’ und des Strebens nach der morphologischen Ausgleichung die ursprünglichen Verhältnisse sehr oft verwischt und viele meine Vermutung scheinbar entkräftenden Neubildungen geschaffen. So haben wir im Grossrussischen neben den die ursprünglichen Betonungsverhältnisse wiederholenden

scát’ (сцать, pissen) [aus *sьcấtī* aus **sьkấtī*], *-klĭ́cát’* (восклицать, ausrufen),

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[2] Vgl. M. V. Veselinović, “Granični Dijalekat medju Srbima i Bugarima. Zona *dž* i *č*” (M. B. Веселиновић, “Гранични Дијалекат међу Србима и Бугарима. Зона џ и ч”). Belgrad 1890, S. 13-16.

-ńicát' (проницать, durchdringen, durchsehen), *-ŕicát'* (порицать, tadeln), *bĺistát'* (блистать, glänzen) [aus **blīscắtī* aus **blīskắtī*], *-dv́izát'* (подвизать, anregen), *bŕacát'* (брящать, klingeln, klirren), *-śazát'* (осязать, betasten), *-t́azát'* (состязаться, disputieren), *-d́erzát'* (дерзать, sich erdreisten), *t́erzát'* (терзать, zerreissen), *źercá-* (созерцать, beschauen, зерцало, Spiegel), *ĺicó* (лицо, Antlitz, Gesicht), *v́incó* (винцо, Weinchen) [aus **vīnьkó*], *koĺcó* (кольцо, Ring), *słovcó* (словцо, Wort), *d́eŕevcó* (деревцо, Bäumchen), *otcá* (отца, des Vaters) [aus **otьká*], *kupcá* (купца, des Kaufmanns), *borcá* (борца, des Kämpen), *łžecá* (лжеца, des Lügners), *ovcá* (овца, Schaf) [aus **ovьkắ*], *śt́eźá* (стезя, Pfad), *ńeĺźá* (нельзя, man kann nicht) usw. usw.

auch Wörter, wie einerseits *śérdce* (сердце, Herz), *sółnce* (солнце, Sonne), *stárca* (старца, des Greises), *ḩĺébca* (хлѣбца, des Brodes), *ptíca* (птица, Vogel), *d́ev́íca* (дѣвица, Jungfrau), *boĺńíca* (больница, Krankenhaus), *górńica* (горница, Zimmer) usw., andererseits aber *staŕiká* (старика, des Greises), *ṕečńiká* (печника, des Töpfers), *-kĺikát'* (окликать, rufen), *-ńikát'* (проникать, eindringen), *-pŕagát'* (запрягать, anspannen), *-śagát'* (присягать, schwören) usw. usw.

Im Anschluss an das Vorangehende stelle ich mir die historische Reihenfolge verschiedener Degenerationsarten slavischer hinterlingualer Konsonanten, *k*, *g*, *ḩ* (*ch*), folgendermassen vor [wobei ich mit *G* die hinterlinguale Qualität im allgemeinen bezeichne]:

In der 'vorslavischen', aber schon durch das Vorkommen eines — entweder aus *s* entwickelten, oder entlehnten — *ḩ*(*ch*)-artigen Konsonanten modifizierten Periode existierten dreifache hierhergehörigen Verbindungen:

1. *G* (*k*, *g*, *ḩ*) mit einem darauffolgenden palatalen Phoneme (Laute), — ganz einerlei, ob dieses silbebildend, *i* (*ĭ*, *ī*), *e* (*ĕ*, *ē*, *ei̯*, *en*, *er*, *el*), *r̥*$_i$, *l̥*$_i$, *n̥*$_i$, *m̥*$_i$, [*r̥*$_i$*r*, *l̥*$_i$*l*, *n̥*$_i$*n* *m̥*$_i$*m*], oder nichtsilbebildendes (konsonantisches) *i̯* war, — folglich Verbindungen: *Gi*, *Ge*, *Gr̥*$_i$, *Gi̯* ...;
2. *G* mit dem darauffolgenden Diphthonge *oi̯* (aus idg. *oi̯*, *ai̯*), also *Goi̯*;
3. *G* mit einem vorangehenden *i*, d. h. *iG* (*ĭG*, *īG*, *ei̯G*, *oi̯G*, *n̥*$_i$*G*, *r̥*$_i$*G*, *l̥*$_i$*G*).

Zuerst unterlag das *G* der 1. Gruppe von Verbindungen einer kombinatorischen palatalen Affektion und wurde G_i, während das *G* der Gruppen 2 und 3 von einer solchen Affektion noch verschont blieb, und zwar der Gruppe 2, weil das *G* sich mit einem nichtpalatalen Sonanten, *o* (im Diphthonge *oi̯*), unmittelbar berührte, der Gruppe 3 dagegen, weil zu jener Zeit die Wirkung vorangehender palataler Sonanten noch nicht genügend stark war.

Und dieses war die erste Periode der Palatalisation hinterlingualer ('gutturaler') Konsonanten des slavischen Sprachgebietes oder, genauer gesagt, des Sprachgebietes, welches als linguistischer Vorgänger (Vorfahr) des jetzigen slavischen Sprachgebietes betrachtet werden muss.

Diese kombinatorische palatale Affektion, G_i, führte allmählich, in einer Reihe von Generationen, auf dem Wege einer spontanen Degeneration kombinatorisch affizierter Phoneme, zur Entstehung vorderlingualer spirantischer Konsonanten, *č*, *ž*, *š*.

Während sich nun diese historische Veränderung allmählich vollzog, entwickelte sich aus dem Diphthonge *oi̯* (*oi̯*, *ai̯*) ein langer einfacher Vokal *ē*, respektive *ī*, was sich auf dem slavischen Boden unter den allgemeinen Begriff der Beseitigung aller geschlossenen Silben subsumieren lässt.

Auf diese Weise entstanden neue Verbindungen von hinterlingualen Konsonanten mit dem folgenden palatalen Sonanten; und in diesen neuentstandenen Verbindungen machte sich die assimilierende Wirkung des folgenden palatalen Vokals und die kombinatorische Affektion des hinterlingualen Konsonanten von neuem geltend.

Gleichzeitig aber fing auch die extreme palatale Verengung bei dem vorangehenden Sonanten (*i*, $\underset{\circ}{r}_i$, $\underset{\circ}{l}_i$, $\underset{\circ}{n}_i$ ...) auf das folgende *G* zu wirken und es palatal zu affizieren, obgleich nur unter der obenerwähnten Bedingung der Akzentuation.

In einem Teile des slavischen Sprachgebietes ergriff dieser Assimilationsprozess zu derselben Zeit auch slavische Verbindungen *kvī*, *gvī*, *kvē*, *gvē* (aus dem vorslavischen *ku̯ī ku̯ei̯*, *gu̯ī gu̯ei̯*, *ku̯oi̯ ku̯ai̯*, *gu̯oi̯ gu̯ai̯*), was zur nachträglichen Entwickelung von *cvī*, *ʒvī*, *cvē*, *ʒvē* führte: *cvēt-ъ* (Blume), *zvēzdá̋* (Stern) u. ä.

Das war also die zweite Periode der slavischen Palatalisation, welche in einer Reihe von Generationen zur Entwickelung von *c*, *ʒ* (*dz*), *s* aus den palatalisierten k_i, g_i, $ḫ_i$ führte.

Eine dritte Periode der Palatalisation hat eben in den letzten Zeiten (d. h. in den letzten Jahrhunderten) begonnen, wo sich wieder teilweise sekundäre Verbindungen eines hinterlingualen Konsonanten mit einem palatalen Sonanten entwickelten, teilweise aber ein vorangehender palataler Konsonant eine solche Wirkung auszuüben begann.

Zu dieser letzten Kategorie gehören die obenerwähnten Fälle z. B. aus der Wjatkaschen Mundart des grossrussischen Sprachgebiets (*trójḱä*, *dóčḱä* ...), aus der Schopschen Zone der Balkanhalbinsel (*májt'a* ...) ... Die erste Kategorie aber, die Kategorie sekundärer Verbindungen eines hinterlingualen Konsonanten mit einem palatalen Sonanten, umfasst vor allem die Fälle, wo entweder ein palataler Vokal sich phonetisch aus einem früheren nichtpalatalen Laute entwickelte, oder wo auf dem Wege einer morphologischen Assimilation ('Analogie') die Palatalität als ein psychisch bedingter Bestandteil des hinterlingualen Konsonanten auftrat.

Hier sind also zu nennen:

1. *i* für das frühere *y* (ы) [in verschiedenen Teilen des slavischen Sprachgebietes]; *i* für das frühere *e*, *o* (im Kleinrussischen); *e* aus *ŭ* (im Polnischen und sonst); *eł* aus *l̥* (im Polnischen) usw.

2. Russische Dative und Locative Sing. in der Art von *ruḱé* (рукѣ, Hand), *noǵé* (ногѣ, Fuss), *snoḫ́é* (снохѣ, Schwiegertochter) ..., anstatt der früheren *rucé*, *nozé*, *snosé* ...;

russische Adjectiva possessiva (meistenteils als Nomina propria fungierend) *súḱin* (сукинъ, der Hündin), *sobáḱin* (собакинъ, des Hundes), *Toptýǵin* (Топтыгинъ, Name), *Bloh́in* (Блохинъ, Name) ..., anstatt der früheren *súčin*, *sobáčin*, *Toptýžin*, *Blošín* ...;

russische volkstümliche Präsentia *ṕeḱóš* (bäckst), *ṕeḱót* (bäckt) ..., *śteŕeǵóš* (bewachst), *st́eŕeǵót* (bewacht) … für die 'normalen' *ṕečóš ṕečót* … (печешь печетъ), *st́eŕežóš st́eŕežót* … (стережешь стережетъ) …

3. Die slovenischen Genitive S., Nominative Pl. usw. in der Art von *roke* (Hand), *noge* (Fuss), *muhe* (Fliege) … gehören auch dorthin, wo die beiden soeben erwähnten Abteilungen 1 und 2; denn, obgleich in ihnen die Endung *e* (phonetisch aus *ę*) auf dem Wege der morphologischen Ausgleichung die Stelle des früheren *i* (phonetisch aus *y*) vertritt, so ändert das doch an dem Einflusse auf die vorangehenden hinterlingualen Konsonanten gar nichts: das *i* (aus dem früheren *y*) würde in den diese Erscheinung darbietenden slovenischen Dialekten ebenso wie *e* palatalisierend wirken.

Schliesslich gehören hierher die Verbindungen *ke*, *ge*, *ḫe* in den neuerdings in die betreffenden Teile des slavischen Sprachgebietes entlehnten Wörtern.

Auch diese letzte Palatalisation, die Palatalisation der dritten Periode, hat schon teilweise zu einer starken vorderlingualen Degeneration der palatal affizierten hinterlingualen Konsonanten geführt. Ich brauche nur kaschubische *ćij* (aus *kij*, Stock), *ʒ́ibći* (*dźibći*) (aus *gibki*, biegsam) …, oder partiell-slovenische (in Ober-Krain, Kärnthen, Tolmein, Kirchheim, Karst …) *čísu* (aus *kisl̥*, sauer), *čétne* (aus *ketne*, Ketten), *róče* (aus *roke*, der Hand) …, *nóje* (aus *noge*, des Fusses) …, *múše* (aus *muḫe*, der Fliege) … zu nennen. Die grossrussischen *paut́ína* (паутина, Spinngewebe), *t́íśt'* anstatt *ḱíśt'* (кисть, Pinsel), *d́íŕa* anstatt *ǵíŕa* (гиря, Gewicht), *áńd́eł* anstatt *áńǵeł* (ангелъ, Engel) …, die [oben erwähnten] Schopschen *majt́a*, *devojt́a* … gehören auch hierher.

Eine vierte, noch im Werden begriffene, Periode der Palatalisation bietet, meiner Meinung nach, der Unterschied des *k* in den grossrussischen *staŕiká*, *ṕečńiká* … einerseits und *rybaká*, *kabaká* … anderseits, worauf ich gleich im Anfange hingewiesen habe.

Meine Hypothese von der Entstehung des *c*, *ʒ* in *otьcь*, *klicáti*, *dviʒáti* … und von den verschiedenen Perioden der slavischen Palatalisation macht eine einfache, jeder gezwungenen Spitzfindigkeit bare Erklärung des historisch-phonetischen Verhältnisses möglich, welches wir, inbetreff von *k č c*, *g ž ʒ* (oder *z*) in *klī́k-* | *klī́če-* | *klīc-á-* (rufen, Ruf), *otьč-e* (Vok.) | *otьčьsk-* (Adjekt.) | *otьc-* (Vater), *dvī́g-a-*| *dvī́ž-e-* | *dvīʒ-á-* (bewegen) u. ä., oder in den slavischen Suffixen *-k-* (*-ъk-*, *-īk-* …) | *-c-* (*-ьc-* …) u. ä. bemerken.

Die später entwickelte psychisch bedingte Alternation *c* || *č*, *ʒ* (*z*) || *ž* hatte die Forscher auf den falschen Gedanken geführt, es seien *č*, *ž* aus *c*, *ʒ* entstanden. Unterdessen entsteht ein slavisches *č* oder *ž* *phonetisch* nie aus einem *c* oder *ʒ* (*z*). Wohl konnte sich ein *ž* aus dem *z*, genauer aus dem *zi̯* (*zj*), entwickeln, aber nur in dem Falle, wenn dieses *z* nicht ein aus dem *g* (= idg. g_2, g_2^h) kombinatorisch, auf dem Wege der Palatalisation, entwickeltes, sondern ein dem idg. g_1 ($\hat{g}$) oder g_1^h ($\hat{g}^h$) spontan entsprechendes *z* ist.

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